

## ORDERING

### Measurement: SA-3 Offered Versus Requested Due Date

#### Description

The Offered Versus Desired Due Date measure reflects the degree to which BellSouth is committing to install service on the CLEC or IXC Carrier Desired Due Date (CDDD), when a Due Date desired is equal to or greater than the BellSouth stated interval. A distribution of the delta, the difference between the CDDD and the Offered Date, for these FOCs is required for diagnostic purposes.

#### Calculation Methodology

##### Percent Offered with CLEC or IXC Carrier Requested Due Date:

- $\frac{[\text{Count of ASRs where (FOC Due Date = CDDD)}]}{[\text{Total number of ASRs where (CDDD - ASR Received Date) \geq \text{BellSouth Stated Interval}}]} \times 100$

##### Offered versus Requested Interval Delta – Distribution:

- $[(\text{Offered Due Date} - \text{CDDD}) \text{ where } (\text{CDDD} - \text{ASR Received Date}) \geq \text{BellSouth Stated Interval}] \text{ for each FOC received during the reporting period, distributed by:}$   
0 days, >0 - <= 5 days, >5 days - <= 10 days, > 10 days - <= 20 days, > 20 days - <= 30 days, > 30 days - <= 40 days, > 40 days

#### Business Rules

1. Counts are based on each instance of a FOC received from BellSouth. If one or more Supplement ASRs are issued to correct or change a request, each corresponding FOC, which is received during the reporting period, is counted and measured.
2. Days shown are business days, Monday to Friday, excluding National Holidays. Activity starting on a weekend, or holiday, will reflect a start date of the next business day, and activity ending on a weekend, or holiday, will be calculated with an end date of the last previous business day.
3. Projects are included

#### Exclusions

- Unsolicited FOCs
- Disconnect ASRs
- Cancelled ASRs
- Record ASRs

#### Levels of Disaggregation

- DS0
- DS1
- DS3 (Non Optical)
- DS3 (Optical OCn)

#### Performance Standard

- Percent Offered with CDDD (where CDDD  $\geq$  BellSouth Stated Interval) = 100%
- Offered versus Requested Interval Delta – Distribution.....- Diagnostic
- BellSouth Stated Intervals: To be determined by BellSouth

## PROVISIONING

### Measurement: SA-4 On Time Performance To FOC Due Date

#### Description

On Time Performance To FOC Due Date measures the percentage of circuits that are completed on the FOC Due Date, as recorded from the FOC received in response to the last ASR received. Customer Not Ready (CNR) situations are defined as Customer Not Ready (SR), No Access (SA), Customer Requests a Later Date (SL), and Customer Other (SO) which may result in an installation delay. The On Time Performance To FOC Due Date is calculated both with CNR consideration, i.e. measuring the percentage of time the service is installed on the FOC due date while counting CNR coded orders as an appointment met, and without CNR consideration.

#### Calculation Methodology

##### Percent on Time Performance to FOC Due Date – With CNR Consideration:

- $\frac{[(\text{Count of Circuits Completed on or before BellSouth Committed Due Date} + \text{Count of Circuits Completed after FOC Due Date with a verifiable CNR code}) / (\text{Count of Circuits Completed in Reporting Period})] \times 100}{}$

##### Percent on Time Performance to FOC Due Date – Without CNR Consideration:

- $\frac{[(\text{Count of Circuits Completed on or before BellSouth Committed Due Date}) / (\text{Count of Circuits Completed in Reporting Period})] \times 100}{}$

**Note:** The denominator for both calculations is the total count of circuits completed during the reporting period, including all circuits, with and without a CNR code.

#### Business Rules

1. Measures are based on the last ASR received and the associated FOC Due Date received from BellSouth.
2. Selection is based on circuits completed by BellSouth during the reporting period. An ASR may provision more than one circuit and BellSouth may break the ASR into separate internal orders, however, the service order is not considered completed for measurement purposes until all circuits are completed.
3. BellSouth Completion Date is the date upon which BellSouth completes installation of the circuit, as noted on a completion notice to the CLEC or IXC Carrier.
4. Projects are included
5. A Customer Not Ready (CNR) is defined as a verifiable situation beyond the control of BellSouth that prevents BellSouth from completing an order, including the following: CLEC or IXC Carrier is not ready; end user is not ready; connecting company, or CPE (Customer Premises Equipment) supplier, is not ready. BellSouth must ensure that established procedures are followed to notify the CLEC or IXC Carrier of a CNR situation and allow a reasonable period of time for the CLEC or IXC Carrier to correct the situation.

#### Exclusions

- Unsolicited FOCs
- Disconnect ASRs
- Cancelled ASRs
- Record ASRs

#### Levels of Disaggregation

- DS0
- DS1
- DS3 (Non Optical)
- DS3 (Optical OCn)

#### Performance Standard

- Percent On Time to FOC Due Date - With CNR Consideration = > 98.0 % On Time
- Percent On Time to FOC Due Date - Without CNR Consideration - Diagnostic

## PROVISIONING

### Measurement: SA-5 Days Late

#### Description

Days Late captures the magnitude of the delay, both in average and distribution, for those circuits not completed on the FOC Due Date, and the delay was not a result of a verifiable CNR situation. A breakdown of delay days caused by a lack of BellSouth facilities is required for diagnostic purposes.

#### Calculation Methodology

##### Average Days Late:

- $\Sigma [\text{Circuit Completion Date} - \text{BellSouth Committed Due Date (for all Circuits Completed Beyond BellSouth Committed Due Date without a CNR code)}] / (\text{Count of Circuits Completed Beyond BellSouth Committed Due Date without a CNR code})$

##### Days Late Distribution:

- Circuit Completion Date – BellSouth Committed Due Date (for all Circuits Completed Beyond BellSouth Committed Due Date without a CNR code) distributed by:  
     $\leq 1$  day, 0 -  $\leq 3$  days,  $>1 - \leq 5$  days,  $>5 - \leq 10$  days,  $>10 - \leq 20$  days,  $>20 - \leq 30$  days,  $>30 - \leq 40$  days,  $>40$  days

##### Average Days Late Due to a Lack of BellSouth Facilities:

- $\Sigma [\text{Circuit Completion Date} - \text{BellSouth Committed Due Date (for all Circuits Completed Beyond BellSouth Committed Due Date without a CNR code and due to a Lack of BellSouth Facilities)}] / (\text{Count of Circuits Completed Beyond BellSouth Committed Due Date without a CNR code and due to a Lack of BellSouth Facilities})$

#### Business Rules

1. Measures are based on the latest valid ASR received and the associated FOC Due Date received from the BellSouth.
2. Selection is based on circuits completed by BellSouth during the reporting period. An ASR may provision more than one circuit and BellSouth may break the ASR into separate internal orders, however, the service order is not considered completed for measurement purposes until all circuits are completed.
3. Days shown are business days, Monday to Friday, excluding National Holidays. Activity starting on a weekend, or holiday, will reflect a start date of the next business day, and activity ending on a weekend, or holiday, will be calculated with an end date of the last previous business day.
4. Projects are included
5. A Customer Not Ready (CNR) is defined as a verifiable situation beyond the control of BellSouth that prevents BellSouth from completing an order, including the following: CLEC or IXC Carrier is not ready; end user is not ready; connecting company, or CPE (Customer Premises Equipment) supplier, is not ready. BellSouth must ensure that established procedures are followed to notify the CLEC or IXC Carrier of a CNR situation and allow a reasonable period of time for the CLEC or IXC Carrier to correct the situation

#### Exclusions

- Unsolicited FOCs
- Disconnect ASRs
- Cancelled ASRs
- Record ASRs

#### Levels of Disaggregation

- DS0
- DS1
- DS3 (Non Optical)
- DS3 (Optical OCn)

**Performance Standard**

- Average Days Late.....< 3.0 Days
- Days Late Distribution..... - Diagnostic
- Average Days Late Due to a Lack of BellSouth Facilities.....- Diagnostic

## PROVISIONING

### Measurement: SA-6 Average Intervals - Requested/Offered/Installation

#### Description

This measure captures three important aspects of the provisioning process and displays them in relation to each other. The Average CLEC or IXC Carrier Requested Interval, the Average BellSouth Offered Interval, and the Average Installation Interval, provide a comprehensive view of provisioning, with the ultimate goal of having these three intervals equivalent.

#### Calculation Methodology

##### Average CLEC or IXC Carrier Requested Interval:

- $\text{Sum (CDDD - ASR Received Date)} / \text{Total Circuits Completed during reporting period}$

##### Average BellSouth Offered Interval:

- $\text{Sum (FOC Due Date - ASR Received Date)} / \text{Total Circuits Completed during reporting period}$

##### Average Installation Interval:

- $\text{Sum (BellSouth Completion Date - ASR Received Date)} / \text{Total Circuits Completed during reporting period}$

#### Business Rules

1. Measures are based on the last ASR received and the associated FOC Due Date received from BellSouth.
2. Selection is based on circuits completed by BellSouth during the reporting period. An ASR may provision more than one circuit and BellSouth may break the ASR into separate internal orders, however, the ASR is not considered completed for measurement purposes until all circuits are completed.
3. Days shown are business days, Monday to Friday, excluding National Holidays. Activity starting on a weekend, or holiday, will reflect a start date of the next business day, and activity ending on a weekend, or holiday, will be calculated with an end date of the last previous business day.
4. Projects are included
5. The Average Installation Interval includes all completions.

#### Exclusions

- Unsolicited FOCs
- Disconnect ASRs
- Cancelled ASRs
- Record ASRs

#### Levels of Disaggregation

- DS0
- DS1
- DS3 (Non Optical)
- DS3 (Optical OCn)

#### Performance Standard

- Average Requested Interval ..... - Diagnostic
- Average Offered Interval ..... - Diagnostic
- Average Installation Interval ..... - Diagnostic

## PROVISIONING

### Measurement: SA-7 Past Due Circuits

#### Description

The Past Due Circuits measure provides a snapshot view of circuits not completed as of the end of the reporting period. The count is taken from those circuits that have received a FOC Due Date but the date has passed. Results are separated into those held for BellSouth reasons and those held for CLEC or IXC Carrier reasons (CNRs), with a breakdown, for diagnostic purposes, of Past Due Circuits due to a lack of BellSouth facilities. A diagnostic measure, Percent Cancellations After FOC Due Date, is included to show a percent of all cancellations processed during the reporting period where the cancellation took place after the FOC Due Date had passed

#### Calculation Methodology

##### Percent Past Due Circuits:

- $\left[ \frac{\text{[(Count of all circuits not completed at the end of the reporting period > 5 days beyond the FOC Due Date, grouped separately for Total BellSouth Reasons, Lack of BellSouth Facility Reasons, and Total CLEC/Carrier Reasons)]}{\text{(Total uncompleted circuits past FOC Due Date, for all missed reasons, at the end of the reporting period)}} \right] \times 100$

##### Past Due Circuits Distribution:

- Count of all circuits past the FOC Due Date that have not been reported as completed (Calculated as last day of reporting period - FOC Due Date) Distributed by:  
    <= 1 day, >1 - <=5 days, 0 days - <= 5 days, >5 - <=10 days, >10 - <=20 days, >20 - <=30 days, >30 - <=40 days, >40 days

##### Percent Cancellations after FOC Due Date:

- $\left[ \frac{\text{[Count (All circuits cancelled during reporting period, that were Past Due at the end of the previous reporting period, where (Date Cancelled > FOC Due Date)]}}{\text{(Total circuits Past Due at the end of the previous reporting period)}} \right] \times 100$

#### Business Rules

1. Calculation of Past Due Circuits is based on the most recent ASR and associated FOC Due Date.
2. An ASR may provision more than one circuit and BellSouth may break the ASR into separate internal orders, however, the service order is not considered completed for measurement purposes until all segments are completed.
3. Days shown are business days, Monday to Friday, excluding National Holidays. Activity starting on a weekend, or holiday, will reflect a start date of the next business day, and activity ending on a weekend, or holiday, will be calculated with an end date of the last previous business day.
4. Projects are included
5. A Customer Not Ready (CNR) is defined as a verifiable situation beyond the control of BellSouth that prevents BellSouth from completing an order, including the following: CLEC or IXC Carrier is not ready; end user is not ready; connecting company, or CPE (Customer Premises Equipment) supplier, is not ready. BellSouth must ensure that established procedures are followed to notify the CLEC or IXC Carrier of a CNR situation and allow a reasonable period of time for the CLEC or IXC Carrier to correct the situation

#### Exclusions

- Unsolicited FOCs
- Disconnect ASRs
- Record ASRs

#### Levels of Disaggregation

- DSO / DS1 / DS3 (Non Optical) / DS3 (Optical OCn)

**Performance Standard**

- Percent Past Due Circuits - Total BellSouth Reasons .....< 3.0 % > 5 days beyond FOC Due Date
- Percent Past Due Circuits - Due to Lack of BellSouth Facilities ..- Diagnostic
- Percent Past Due Circuits - Total CLEC Reasons.....- Diagnostic
- Past Due Circuits Distribution .....- Diagnostic
- Percent Cancellation After FOC Due Date .....- Diagnostic

## PROVISIONING

### Measurement: SA-8 New Installation Trouble Report Rate

#### Description

New Installation Trouble Report Rate measures the quality of the installation work by capturing the rate of trouble reports on new circuits within 30 calendar days of the installation.

#### Calculation Methodology

##### Trouble Report Rate Within 30 Calendar Days of Installation:

- $\left[ \text{Count (trouble reports within 30 Calendar Days of Installation)} / (\text{Total Number of Circuits Installed in the Report Period}) \right] \times 100$

#### Business Rules

1. BellSouth Completion Date is the date upon which BellSouth completes installation of the circuit, as noted on a completion advice to the CLEC or IXC Carrier.
2. The calculation for the following 30 calendar days is based on the creation date of the trouble ticket.

#### Exclusions

- Trouble tickets that are canceled at the CLEC's or IXC Carrier's request
- CLEC, IXC Carrier, CPE (Customer Premises Equipment), or other customer caused troubles
- BellSouth trouble reports associated with administrative service
- Tickets used to track referrals of misdirected calls
- CLEC or IXC Carrier requests for informational tickets

#### Levels of Disaggregation

- DS0
- DS1
- DS3 (Non Optical)
- DS3 (Optical OCn)
- Below DS3 (DS0 + DS1)
- DS3 and Above (DS3 + OCn)

#### Performance Standard

- New Installation Trouble Report Rate .....  $\leq 1.0$  trouble reports per 100 circuits installed



## MAINTENANCE & REPAIR

### Measurement: SA-9 Failure Rate

#### Description

Failure Rate measures the overall quality of the circuits being provided by the BellSouth and is calculated by dividing the number of troubles resolved during the reporting period by the total number of “in service” circuits, at the end of the reporting period, and is then annualized.

#### Calculation Methodology

##### Failure Rate – Annualized:

$$\text{Failure Rate} = (a / b) * 100$$

- a = Count of trouble reports resolved during a report period
- b = Number of circuits in service at the end of the report period

$$\text{Failure Rate Annualized} = (c / d) * 100$$

- c = Average count of trouble reports closed per month during the past 12 months
- d = Average number of circuits in service per month for the past 12 months

#### Business Rules

1. A trouble report/ticket is any record (whether paper or electronic) used by BellSouth for the purposes of tracking related action and disposition of a service repair or maintenance situation.
2. A trouble is resolved when BellSouth issues notice to the CLEC or IXC Carrier that the circuit has been restored to operating parameters.
3. Where more than one trouble is resolved on a specific circuit during the reporting period, each trouble is counted in the Trouble Report Rate.

#### Exclusions

- Trouble tickets that are canceled at the CLEC's or IXC Carrier's request
- CLEC, IXC Carrier, CPE (Customer Premises Equipment), or other customer caused troubles
- BellSouth trouble reports associated with administrative service
- CLEC or IXC Carrier requests for informational tickets
- Tickets used to track referrals of misdirected calls

#### Levels of Disaggregation

- Below DS3 (DS0 + DS1)
- DS3 and Above (DS3 + OCn)
- DS0
- DS1
- DS3 (Non Optical)
- DS3 (Optical Ocn)

#### Performance Standard

- Failure Rate Annualized .....- Below DS3 <= 10.0%  
- DS3 and Above <= 10.0%

## MAINTENANCE & REPAIR

### Measurement: SA-10 Mean Time to Restore

#### Description

The Mean Time To Restore interval measures the promptness in restoring circuits to operating levels when a problem or trouble is received by BellSouth. Calculation is the elapsed time from the CLEC or IXC Carrier submission of a trouble report to BellSouth to the time BellSouth closes the trouble, less any Customer Hold Time or Delayed Maintenance Time due to valid customer, CLEC, or IXC Carrier caused delays. A breakdown of the percent of troubles outstanding greater than 24 hours, and the Mean Time to Restore of those troubles recorded as NTF / Test OK, is required for diagnostic purposes.

#### Calculation Methodology

##### Mean Time To Restore:

- $\Sigma [(Date\ and\ Time\ of\ Trouble\ Ticket\ Resolution\ Closed\ to\ the\ CLEC\ or\ IXC\ Carrier - Date\ and\ Time\ of\ Trouble\ Ticket\ Received\ by\ BellSouth) - (Customer\ Hold\ Times)] / (Count\ of\ Trouble\ Tickets\ Resolved\ in\ Reporting\ Period)]$

##### % Out of Service Greater than 24 hrs:

- $[Count\ of\ Troubles\ where\ (Date\ and\ Time\ of\ Trouble\ Ticket\ Resolution\ Closed\ to\ the\ CLEC\ or\ IXC\ Carrier - Date\ and\ Time\ of\ Trouble\ Ticket\ Received\ by\ BellSouth) - (Customer\ Hold\ Times)\ is\ >\ 24\ hrs / (Count\ of\ Trouble\ Tickets\ Resolved\ in\ Reporting\ Period)] \times 100$

##### Mean Time To Restore – NTF / Test OK:

- $\Sigma [(Date\ and\ Time\ of\ Trouble\ Ticket\ Resolution\ Closed\ to\ the\ CLEC\ or\ IXC\ Carrier\ as\ NTF\ /Test\ OK - Date\ and\ Time\ of\ Trouble\ Ticket\ Referred\ to\ BellSouth) - (Customer\ Hold\ Times)] / (Count\ of\ Trouble\ Tickets\ Resolved\ in\ Reporting\ Period\ as\ NTF\ /Test\ OK)]$

#### Business Rules

1. A trouble report or trouble ticket is any record (whether paper or electronic) used by BellSouth for the purposes of tracking related action and disposition of a service repair or maintenance situation.
2. Elapsed time is measured on a 24-hour, seven-day per-week basis, without consideration of weekends or holidays.
3. Multiple reports in a given period are included, unless the multiple reports for the same customer is categorized as “subsequent” (an additional report on an already open ticket).
4. “Restore” means to return to the expected operating parameters for the service regardless of whether or not the service, at the time of trouble ticket creation, was operating in a degraded mode or was completely unusable. A trouble is “resolved” when BellSouth issues notice to the CLEC or IXC Carrier that the customer’s service is restored to operating parameters.
5. Customer Hold Time or Delayed Maintenance Time resulting from verifiable situations of no access to the end user’s premises, or other CLEC or IXC Carrier caused delays, such as holding the ticket open for monitoring, is deducted from the total resolution interval.

#### Exclusions

- Trouble tickets that are canceled at the CLEC’s or IXC Carrier’s request
- CLEC, IXC Carrier, CPE (Customer Premises Equipment), or other customer caused troubles
- BellSouth trouble reports associated with administrative service
- CLEC or IXC Carrier requests for informational tickets
- Trouble tickets created for tracking and/or monitoring circuits
- Tickets used to track referrals of misdirected calls

**Levels of Disaggregation**

- Below DS3 (DS0 + DS1)
- DS3 and Above (DS3 + OCn)
- DS0
- DS1
- DS3 (Non Optical)
- DS3 (Optical OCn)

**Performance Standard**

- Mean Time to Restore.....- Below DS3 <= 2.0 Hours  
- DS3 and Above <= 1.0 Hour
- % Out of Service > 24 Hrs.....- Diagnostic
- Mean Time to Restore –NTF/ Test OK.....- Diagnostic

## MAINTENANCE & REPAIR

### Measurement: SA-11 Repeat Trouble Report Rate

#### Description

The Repeat Trouble Report Rate measures the percent of maintenance troubles resolved during the current reporting period that had at least one prior trouble ticket any time in the preceding 30 calendar days from the creation date of the current trouble report.

#### Calculation Methodology

##### Repeat Trouble Report Rate:

- $$\frac{[(\text{Count of Current Trouble Reports with a previous trouble, reported on the same circuit, in the preceding 30 calendar days})]}{(\text{Number of Reports in the Report Period})} \times 100$$

#### Business Rules

1. A trouble report or trouble ticket is any record (whether paper or electronic) used by BellSouth for the purposes of tracking related action and disposition of a service repair or maintenance situation.
2. A trouble is resolved when BellSouth issues notice to the CLEC or IXC Carrier that the circuit has been restored to operating parameters.
3. If a trouble ticket was closed out previously with the disposition code classifying it as NTF/TOK, then the second trouble must be counted as a repeat trouble report if it is resolved to BellSouth reasons.
4. The trouble resolution need not be identical between the repeated reports for the incident to be counted as a repeated trouble.

#### Exclusions

- Trouble tickets that are canceled at the CLEC's or IXC Carrier's request
- CLEC, IXC Carrier, CPE (Customer Premises Equipment), or other customer caused troubles
- BellSouth trouble reports associated with administrative service
- Subsequent trouble reports – defined as those cases where a customer called to check on the status of an existing open trouble ticket

#### Levels of Disaggregation

- Below DS3 (DS0 + DS1)
- DS3 and Above (DS3 + OCn)
- DS0
- DS1
- DS3 (Non Optical)
- DS3 (Optical OCn)

#### Performance Standards

- Repeat Trouble Report Rate..... - Below DS3 <= 6.0%  
- DS3 and Above <= 3.0%

## GLOSSARY

| Term                                 | Definition   |
|--------------------------------------|--|
| <b>Access Service Request (ASR)</b>  | A request to BellSouth to order new service, or request a change to existing service, which provides access to the local exchange company's network, under terms specified in the local exchange company's special or switched access tariffs.                                     |
| <b>Business Days</b>                 | Monday through Friday excluding holidays   |
| <b>CDDD</b>                          | Customer Desired Due Date  |
| <b>Customer Not Ready (CNR)</b>      | A verifiable situation beyond the normal control of BellSouth that prevents BellSouth from completing an order, including the following: CLEC or IXC Carrier is not ready; end user is not ready; connecting company, or CPE (Customer Premises Equipment) supplier, is not ready. |
| <b>(SA)</b>                          | No access to subscriber premises   |
| <b>(SR)</b>                          | Customer Not Ready   |
| <b>(SL)</b>                          | Customer Requests Later Date   |
| <b>(SO)</b>                          | Customer Other   |
| <b>Facility Check</b>                | A pre-provisioning check performed by BellSouth, in response to an access service request, to determine the availability of facilities and assign the installation date.   |
| <b>Firm Order Confirmation (FOC)</b> | The notice returned from BellSouth, in response to an Access Service Request from a CLEC or IXC Carrier that confirms receipt of the request, that a facility has been made, and that a service request has been created with an assigned due date.                                |
| <b>NTF</b>                           | No Trouble Found   |
| <b>Unsolicited FOC</b>               | An Unsolicited FOC is a supplemental FOC issued by BellSouth to change the due date or for other reasons, although no change to the ASR was requested by the CLEC or IXC Carrier.  |
| <b>Project</b>                       | Service requests that exceed the line size and/or level of complexity that would allow the use of standard ordering and provisioning processes.  |
| <b>Query/Reject</b>                  | BellSouth response to an ASR requesting clarification or correction to one or more fields on the ASR before an FOC can be issued.  |
| <b>Repeat Trouble</b>                | Trouble that reoccurs on the same telephone number/circuit ID within 30 calendar days  |
| <b>Supplement ASR</b>                | A revised ASR that is sent to change due dates or alter the original ASR request. A "Version" indicator related to the original ASR number tracks each Supplement ASR.   |
| <b>TOK</b>                           | Test OK  |

## Symbols Used In Calculations

$\Sigma$

A mathematical symbol representing the sum of a series of values following the symbol.

-

A mathematical operator representing subtraction.

+

A mathematical operator representing addition.

/

A mathematical operator representing division.

<

A mathematical symbol that indicates the metric on the left of the symbol is less than the metric on the right.

$\leq$

A mathematical symbol that indicates the metric on the left of the symbol is less than or equal to the metric on the right.

>

A mathematical symbol that indicates the metric on the left of the symbol is greater than the metric on the right.

$\geq$

A mathematical symbol that indicates the metric on the left of the symbol is greater than or equal to the metric on the right.

()

Parentheses, used to group mathematical operations which are completed before operations outside the parentheses.

# **SOUTH CAROLINA SEEM ADMINISTRATIVE PLAN<sup>1</sup>**

**South Carolina Plan  
Version 2.0**

**Issue Date: September 16, 2005**

---

<sup>1</sup> This plan was previously referred to as the Incentive Payment Plan ("IPP"). In order to be consistent throughout BellSouth's operating region, the name of the plan has been changed from IPP to SEEM.

| <b>Contents</b>  | <b>Page</b> |
|--|-------------|
| <b>Administrative Plan.....</b>  | <b>1</b>    |
| 1 – Scope.....   | 1           |
| 2 – Reporting.....   | 1           |
| 3 – Review of Measurements and Enforcement Mechanisms.....   | 2           |
| 4 – Enforcement Mechanisms.....  | 2           |
| 4.1 - Definitions.....   | 2           |
| 4.2 - Application .....  | 4           |
| 4.3 - Methodology.....   | 4           |
| 4.4 - Payment of Tier-1 and Tier-2 Amounts.....  | 8           |
| 4.5 - Limitations of Liability.....  | 9           |
| 4.6 - Change of Law.....   | 11          |
| 4.7 - Affiliate Reporting.....   | 11          |
| 4.8 - Enforcement Mechanism Cap.....   | 11          |
| 4.9 - Audits.....  | 12          |
| 4.10 - Dispute Resolution.....   | 12          |
| 4.11 - Regional and State Coefficients.....  | 13          |
| <b>Appendix A: Fee Schedule.....</b>   | <b>14</b>   |
| Table 1: Fee Schedule for Tier 1 Per Transaction Fee Determination.....  | 14          |
| Table 2: Tier 2 Per Transaction Fee Determination.....   | 15          |
| <b>Appendix B: SEEM Submetrics.....</b>  | <b>16</b>   |
| B.1 - Tier 1 Submetrics.....   | 16          |
| B.2 - Tier 2 Submetrics.....   | 21          |
| <b>Appendix C: Statistical Properties and Definitions.....</b>   | <b>26</b>   |
| C.1 – Necessary Properties for a Test Methodology.....   | 26          |
| C.2 – Testing Methodology – The Truncated Z.....   | 28          |
| <b>Appendix D: Statistical Formulas and Technical Descriptions.....</b>  | <b>31</b>   |
| D.1 – Notation and Exact Testing Distributions.....  | 31          |
| D.2 – Calculating the Truncated Z.....   | 34          |
| <b>Appendix E: BST SEEM Remedy Calculation Procedures.....</b>   | <b>45</b>   |
| E.1 – BST SEEM Remedy Procedure.....   | 45          |
| E.2 – Tier-2 Calculation for Retail Analogs.....   | 48          |
| E.3 – Tier -1 Calculation For Benchmarks.....  | 51          |
| E.4 – Tier-1 Calculation For Benchmarks (In The Form Of A Target).....   | 52          |
| E.5 – Tier 2 Calculations For Benchmarks.....  | 53          |
| E.6 – Regional and State Coefficients.....   | 53          |
| <b>Appendix F: BellSouth’s Policy on Reposting of Performance Data and<br/>Recalculation of SEEM Payments.....</b> | <b>56</b>   |



# Administrative Plan

## 1 Scope

- 1.1 This Administrative Plan (Plan) includes Service Quality Measurements with corresponding Self Effectuating Enforcement Mechanisms to be implemented by BellSouth pursuant to the Order issued by the Public Service Commission of South Carolina (the "Commission") in Docket No. 2001-209-C.
- 1.2 Upon the Effective Date of this Plan, all appendices referred to in this Plan will be located on the BellSouth Performance Measurement Reports website at: <https://pmap.bellsouth.com>.

## 2 Reporting

- 2.1 In providing services pursuant to the Interconnection Agreements between BellSouth and each CLEC, BellSouth will report its performance to each CLEC in accordance with BellSouth's SQMs and pay remedies in accordance with the applicable SEEM, which are posted on the Performance Measurement Reports website.
- 2.2 BellSouth will make performance reports available to each CLEC on a monthly basis. The reports will contain information collected in each performance category and will be available to each CLEC via the Performance Measurements Reports website. BellSouth will also provide electronic access to the raw data underlying the SQMs.
- 2.3 Final validated SQM reports will be posted no later than the last day of the month following the data month in which the activity is incurred, or the first business day thereafter. Final validated SQM reports not posted by this time will be considered late.
- 2.4 Final validated SEEM reports will be posted on the Performance Measurements Reports website on the 15th of the month, following the posting of final validated SQM reports for that data month or the first business day thereafter.
- 2.5 BellSouth shall pay penalties to the Commission, in the aggregate, for all late SQM and SEEM reports in the amount of \$2000 per day. Such payment shall be made to the Commission or its designee within fifteen (15) calendar days of the end of the reporting month in which the late publication of the report occurs.
- 2.6 BellSouth shall pay penalties to the Commission, in the aggregate, for all reposted SQM and SEEM reports in the amount of \$400 per day. The circumstances which may necessitate a reposting of SQM reports

are detailed in Appendix F, Reposting of Performance Data and Recalculation of SEEM Payments. Such payments shall be made to the Commission or its designee within fifteen (15) calendar days of the final publication date of the report or the report revision date.

- 2.7 Tier II SEEMS payments and Administrative fines and penalties for late and reposted reports will be sent to the Commission. Checks and the accompanying transmittal letter will be postmarked on or before the 15<sup>th</sup> of the month or the first business day thereafter, when the 15<sup>th</sup> falls on a non-business day.
- 2.8 BellSouth shall retain the performance measurement raw data files for a period of 18 months and further retain the monthly reports produced in PMAP for a period of three years.
- 2.9 BellSouth will provide documentation of late and reposted SQM and SEEM Reports during the reporting month that the data is posted to the website. These notations may be viewed on the Performance Measurements website from the PMAP home page on the Current Month Updates link.

### **3 Review of Measurements and Enforcement Mechanisms**

- 3.1 BellSouth will participate in annual review cycles. A collaborative work group, which will include BellSouth, interested CLECs and the Commission will review the Performance Assessment Plan for additions, deletions or other modifications.
- 3.2 In the event a dispute arises regarding the ordered modification or amendment to the SQMs or SEEMs, the parties will refer the dispute to the Public Service Commission of South Carolina.

### **4 Enforcement Mechanisms**

#### **4.1 Definitions**

- 4.1.1 *Enforcement Measurement Elements* – performance measurements identified as SEEM measurements within the SEEM Plan.
- 4.1.2 *Enforcement Measurement Benchmark compliance* – level of performance established by the Commission used to evaluate the performance of BellSouth for CLECs where no analogous retail process, product or service is feasible.
- 4.1.3 *Enforcement Measurement Retail Analog compliance* – comparing performance levels provided to BellSouth retail customers with performance levels provided by BellSouth to

the CLEC customer for measures where retail analogs apply.

- 4.1.4 *Test Statistic and Balancing Critical Value* – means by which enforcement will be determined using statistically valid equations. The Test Statistic and Balancing Critical Value are set forth in Appendices C, D and E of this Plan.
- 4.1.5 *Cell* – grouping of transactions at which like-to-like comparisons are made. For example, all BellSouth retail (POTS) services, for residential customers, requiring a dispatch in a particular wire center, at a particular point in time will be compared directly to CLEC resold services for residential customers, requiring a dispatch, in the same wire center, at a similar point in time. When determining compliance, these cells can have a positive or negative Test Statistic. See Appendices C, D and E of this Plan.
- 4.1.6 *Delta, Psi and Epsilon* – measures of the meaningful difference between BellSouth performance and CLEC performance. For individual CLECs the Delta value shall be 0.5 and for the CLEC aggregate the Delta value shall be 0.35. The value for Psi shall be 3 for individual CLECs and 2 for the CLEC aggregate. The value for Epsilon will be 2.5 for both individual CLECs and the CLEC aggregate.
- 4.1.7 *Tier-1 Enforcement Mechanisms* – self-executing fees paid directly to each CLEC when BellSouth delivers non-compliant performance of any one of the Tier-1 Enforcement Measurement Elements for any month as calculated by BellSouth.
- 4.1.8 *Tier-2 Enforcement Mechanisms* – fees paid directly to the Public Service Commission of South Carolina or its designee. Tier 2 Enforcement Mechanisms are triggered by three consecutive monthly failures at the submetric level in which BellSouth performance is out of compliance or does not meet the benchmarks for the aggregate of all CLEC data.
- 4.1.9 *Affiliate* – person that (directly or indirectly) owns or controls, is owned or controlled by, or is under common ownership or control with, another person. For purposes of this paragraph, the term “own” means to own an equity interest (or the equivalent thereof) of more than 10 Percent.
- 4.1.10 *Affected Volume* – that quantity of the total impacted CLEC volume or CLEC Aggregate volume for which remedies will be paid.

- 4.1.11 *Cell Ranking* – placing cells in rank order from highest to lowest, where the cell with the most negative z-score is ranked highest and the cell with the least negative z-score is ranked lowest.
- 4.1.12 *Cell Correction* – method for determining the quantity of transactions to be remedied, referred to as “affected volume,” wherein the cell-level modified z-score for the highest ranked cell is first changed to zero (“corrected”) and then the next highest, progressively, until the overall level truncated z-score is equal to the Balancing Critical Value or zero as required by the Fee Schedule. Either all of the transactions in corrected cells are remedied or a prorated share (determined through interpolation) are remedied.

## **4.2 Application**

- 4.2.1 The application of the Tier-1 and Tier-2 Enforcement Mechanisms does not foreclose other legal and regulatory claims and remedies available to each CLEC.
- 4.2.2 Payment of any Tier-1 or Tier-2 Enforcement Mechanisms shall not be considered as an admission against interest or an admission of liability or culpability in any legal, regulatory or other proceeding relating to BellSouth's performance and the payment of any Tier-1 or Tier-2 Enforcement Mechanisms shall not be used as evidence that BellSouth has not complied with or has violated any state or federal law or regulation.

## **4.3 Methodology**

- 4.3.1 Tier-1 Enforcement Mechanisms will be triggered by BellSouth's failure to achieve applicable Enforcement Measurement Compliance or Enforcement Measurement Benchmarks for each CLEC for the State of South Carolina for a given Enforcement Measurement Element in a given month. Enforcement Measurement Compliance is based upon a Test Statistic and Balancing Critical Value calculated by BellSouth utilizing BellSouth generated data. The method of calculation is set forth in Appendices C, D and E of this Plan.
  - 4.3.1.1 All OCNs and ACNAs for individual CLECs will be consolidated for purposes of calculating transaction-based failures.

- 4.3.1.2 When a measurement has five or more transactions for the CLEC, calculations will be performed to determine remedies according to the methodology described in the remainder of this document.
- 4.3.1.3 Tier-1 Enforcement Mechanisms apply on a per transaction basis and will escalate based upon the number of consecutive months that fail for each Enforcement Mechanism Element for which BellSouth has reported non-compliance. Failures beyond Month 6 will be subject to Month 6 fees. All transactions for an individual CLEC will be consolidated for purposes of calculating Tier-1 Enforcement Mechanisms.
- 4.3.1.4 For submetrics that are assessed based on Enforcement Measurement Retail Analog compliance criteria, the fee paid for a particular submetric that failed at the Tier 1 level will be differentiated based on two criteria. First, the Tier 1 fee paid will be based on whether the same submetric that failed at the Tier 1 level (CLEC-specific) also failed at the CLEC aggregate level in the same month. Second, the Tier 1 fee paid will be based on whether the transactions in the cells to be remedied correct the overall truncated z-score from the region below the Balancing Critical Value ("BCV") to the BCV or from the BCV to zero. Depending on which of these criteria apply, a different multiplier will be applied to the Fee Schedule (shown in Appendix A, Table 1: Fee Schedule for Tier 1 Per Transaction Fee Determination) to determine the amount of the Tier 1 payments. The chart below shows the applicable multipliers:

| <b>CLEC Aggregate Performance</b> | <b>Per Transaction Fee Below BCV</b> | <b>Per Transaction Fee Between BCV and 0</b> |
|-----------------------------------|--------------------------------------|--|
| Passes                            | $(\text{Fee}) \times (3/2)$          | $(\text{Fee}) \times (1/3)$                  |
| Fails                             | $(\text{Fee}) \times (3)$            | $(\text{Fee}) \times (2/3)$                  |

No multiplier applies for the Billing Invoice Accuracy measure.

- 4.3.1.5 For submetrics that are assessed based on Enforcement Measurement Benchmark compliance criteria the fee paid for a particular submetric that failed at the Tier 1 level will be differentiated based on whether the same submetric that failed at the Tier 1 level (CLEC-specific) also failed at the CLEC aggregate level in the same month. A different multiplier will be applied to the Fee Schedule (shown in Appendix A, Table 1: Fee Schedule for Tier 1 Per Transaction Fee Determination) to determine the amount of the Tier 1 payments. The chart below shows the applicable multipliers:

| CLEC Aggregate Performance | Per Transaction Fee   |
|----------------------------|---|
| Passes                     | (Fee)*(3/2)   |
| Fails                      | (Fee)*(5/2) for Ordering and Flow Through<br>(Fee)*(3) for all other benchmark measures |

- 4.3.2 Tier-2 Enforcement Mechanisms will be triggered by BellSouth's failure to achieve applicable Enforcement Measurement Compliance or Enforcement Measurement Benchmarks for the State of South Carolina for given Enforcement Measurement Elements for three consecutive months. The method of calculation is set forth in Appendices C and D of this Plan.
- 4.3.2.1 Tier- 2 Enforcement Mechanisms apply, for an aggregate of all CLEC data generated by BellSouth, on a per transaction basis for each Enforcement Mechanism Element for which BellSouth has reported non-compliance.
- 4.3.2.2 The fee paid for a particular submetric that failed at the Tier 2 level will be as shown in Appendix A, Table 2.
- 4.3.3 The Market Penetration Adjustments will be applied based on the following provisions to enhance competition for nascent products. In order to ensure parity and benchmark performance where CLECs order low volumes of advanced and nascent services, BellSouth will make additional Tier 1 and Tier 2 payments where performance standards for the following measures are not met, if the measurement applies

to the nascent service.

- Percent Missed Installation Appointments
- Average Completion Interval
- Missed Repair Appointments
- Maintenance Average Duration
- Average Response Time for Loop Make-up Information

- 4.3.3.1 These additional payments will only apply when there are more than 10 and less than 100 average units in service statewide for the preceding three-month period. The additional payments in the form of a market penetration adjustment will be made if BellSouth fails to provide parity for the above measurements as determined by the use of the Truncated Z- test and the balancing critical value or fails to meet the established benchmark.
- 4.3.3.2 BellSouth shall calculate the new Tier 1 and Tier 2 payments, which include the market penetration adjustment by applying the normal method of calculating affected volumes as ordered by the Commission and trebling the normal Tier 1 and Tier 2 remedy.
- 4.3.3.3 If, for the three months of data, there were 100 observations or more on average for the sub-metric, then no additional payments under this market penetration adjustment provision will be made. Further, market penetration adjustments shall no longer apply if 24 months have elapsed since the first unit of the nascent service was installed.
- 4.3.3.4 CLECs may file a petition with the Commission in order to add a service to the list of services for which the market penetration adjustment may apply.
- 4.3.3.5 Any payments made under this market penetration adjustment provision are subject to the Absolute Cap set by the Commission.
- 4.3.4 For Tier 1 and Tier 2 evaluations, the retail analog or benchmark are the same as the SQM. See the SQM for SEEM retail analogs and benchmarks.

#### **4.4 Payment of Tier-1 and Tier 2 Amounts**

- 4.4.1 If BellSouth performance triggers an obligation to pay Tier-1 Enforcement Mechanisms to a CLEC or an obligation to remit Tier-2 Enforcement Mechanisms to the Commission or its designee, BellSouth shall make payment in the required amount on the day upon which the final validated SEEM reports are posted on the Performance Measurements Reports website as set forth in Section 2.4 above.
- 4.4.2 For each day after the due date that BellSouth fails to pay a CLEC the required amount, BellSouth will pay the CLEC 6% simple interest per annum.
- 4.4.3 For each day after the due date that BellSouth fails to pay the Tier-2 Enforcement Mechanisms, BellSouth will pay the Commission an additional \$1,000 per day.
- 4.4.4 If a CLEC disputes the amount paid for Tier-1 Enforcement Mechanisms, the CLEC shall submit a written claim to BellSouth within sixty (60) days after the payment date. BellSouth shall investigate all claims and provide the CLEC written findings within thirty (30) days after receipt of the claim. If BellSouth determines the CLEC is owed additional amounts, BellSouth shall pay the CLEC such additional amounts within thirty (30) days after its findings along with 6% simple interest per annum.-
- 4.4.5 For Tier-2 Enforcement Mechanisms, if the Commission requests clarification of an amount paid, a written claim shall be submitted to BellSouth within sixty (60) days after the payment date. BellSouth shall investigate all claims and provide the Commission written findings within thirty (30) days after receipt of the claim. If BellSouth determines the Commission is owed additional amounts, BellSouth shall pay such additional amounts within thirty (30) days after its findings along with 6% simple interest per annum.
- 4.4.6 Any adjustments for underpayment or overpayment of calculated Tier 1 and Tier 2 remedies will be made consistent with the terms of BellSouth's Policy On Reposting Of Performance Data and Recalculation of SEEM Payments, as set forth in Appendix F of this document. If any circumstance necessitating remedy adjustments should occur that is not specifically addressed in the Reposting Policy, such adjustments will be made consistent with the terms defined in Paragraph 6 of the Reposting Policy ("SEEM payments will



be subject to recalculations for a maximum of three months in arrears...) unless the Public Service Commission of South Carolina orders otherwise.

- 4.4.7 Any adjustments for underpayment or overpayment will be made in the next month's payment cycle after the recalculation is made. The final current month PARIS reports will reflect the final paid dollars, including adjustments for prior months where applicable. Questions regarding the adjustments should be made in accordance with the normal process used to address CLEC questions related to SEEM payments.
- 4.4.8 Where there is a SEEM adjustment, in addition to the submetric, data month(s), and adjustment amount, BellSouth will include an adjustment code on the CLEC specific Tier 1 or Tier 2 PARIS reports on the PMAP website. Then, on a separate document under the Exhibits link on the BellSouth PMAP website, this code will be cross-referenced with a brief narrative description of the adjustment. These codes and descriptions will be applicable to all States where an adjustment was applied. If there are multiple adjustment codes, the code explanation document under the Exhibits link will contain all of the codes and the narrative descriptions for each code. An explanation of the cause of the adjustment and the data months impacted by the adjustment will be included in the narrative.

#### **4.5 Limitations of Liability**

- 4.5.1 BellSouth will not be obligated to pay Tier-1 or Tier-2 Enforcement Mechanisms for non-compliance with a performance measure if such non-compliance results from a CLECs acts or omissions that cause failed or missed performance measures. These acts or omissions include but are not limited to, accumulation and submission of orders at unreasonable quantities or times, failure to follow publicly available procedures, or failure to submit accurate orders or inquiries. BellSouth shall provide each CLEC and the Commission with reasonable notice of, and supporting documentation for, such acts or omissions. Each CLEC shall have 10 business days from the filing of such Notice to advise BellSouth and the Commission in writing of its intent to challenge, through the dispute resolution provisions of this plan, the claims made by BellSouth. BellSouth shall not be obligated to pay any amounts subject to such disputes until

the dispute is resolved.

4.5.2 BellSouth shall not be obligated to pay Tier-1 or Tier-2 Enforcement Mechanisms for non-compliance with a performance measurement if such non-compliance was the result of any event that performance under this SQM/SEEM Plan is either directly or indirectly prevented, restricted, or interfered with by reason of fire, flood, earthquake or like acts of God, wars, revolution, civil commotion, explosion, acts of public enemy, embargo, acts of the government in its sovereign capacity, labor difficulties, including without limitation, strikes, slowdowns, picketing, or boycotts, or any other circumstances beyond the reasonable control and without the fault or negligence of BellSouth. BellSouth, upon giving prompt notice to the Commission and CLECs, shall be excused from such performance on a day-to-day basis to the extent of such prevention, restriction, or interference; provided, however, that BellSouth shall use diligent efforts to avoid or remove such causes of non-performance.

4.5.2.1 To invoke the application of Section 4.5.2 (Force Majeure Event), BellSouth will provide written notice to the Commission wherein BellSouth will identify the Force Majeure Event, the affected measures, and the impacted areas including affected NPAs and NXXs.

4.5.2.2 No later than ten (10) business days after BellSouth provides written notice in accordance with Section 4.5.2.1 affected parties must file written comments with the Commission to the extent they have objections or concerns regarding the application of Section 4.5.2.

4.5.2.3 BellSouth's written notice of the applicability of Section 4.5.2 would be presumptively valid and deemed approved by the Commission effective thirty (30) calendar days after BellSouth provides notice in accordance with Section 4.5.2.1. The Commission may require BellSouth to provide a true-up of SEEM fees to affected carriers if a Force Majeure declaration is found to be invalid by the Commission after it has taken effect.

4.5.2.4 During the pendency of a Force Majeure Event, BellSouth shall provide the Commission with periodic updates of its restoration/recovery progress

and efforts as agreed upon between the Commission Staff and BellSouth.

- 4.5.3 In addition to these specific limitations of liability, BellSouth may petition the Commission to consider a waiver based upon other circumstances.

#### **4.6 Change of Law**

- 4.6.1 Upon a particular Commission's issuance of an Order pertaining to Performance Measurements or Remedy Plans in a proceeding expressly applicable to all CLECs, BellSouth shall implement such performance measures and remedy plans covering its performance for the CLECs, as well as any changes to those plans ordered by the Commission, on the date specified by the Commission. If a change of law occurs which may relieve BellSouth's provisioning of a UNE or UNE combination, BellSouth shall Petition the Commission within 30 days if it seeks to cease reporting data or paying remedies in accordance with the change of law. Performance Measurements and remedy plans that have been ordered by the Commission can currently be accessed via the Internet at <http://pmap.bellsouth.com>. Should there be any difference between the performance measure and remedy plans on BellSouth's website and the plans the Commission has approved as filed in compliance with its orders, the Commission-approved compliance plan will supersede as of its effective date.

#### **4.7 Affiliate Reporting**

- 4.7.1 BellSouth shall provide monthly results for each metric for each BellSouth CLEC affiliate. Upon request, the Public Service Commission of South Carolina shall be provided the number of transactions or observations for BellSouth CLEC affiliates. Further, BellSouth shall inform the Commission of any changes regarding non-CLEC affiliates' use of its OSS databases, systems, and interfaces.

#### **4.8 Enforcement Mechanism Cap**

- 4.8.1 BellSouth's total liability for the payment of Tier-1 and Tier-2 Enforcement Mechanisms shall be collectively and absolutely capped at 36% of net revenues in South Carolina, based upon the most recently reported ARMIS data.
- 4.8.2 If projected payments exceed the state cap, a proportional

payment will be made to the respective parties.

- 4.8.3 If BellSouth's payment of Tier-1 and Tier-2 Enforcement Mechanisms would have exceeded the cap referenced in this plan, a CLEC may commence a proceeding with the Commission to demonstrate why BellSouth should pay any amount in excess of the cap. The CLEC shall have the burden of proof to demonstrate why, under the circumstances, BellSouth should have additional liability.

#### **4.9 Audits**

- 4.9.1 BellSouth currently provides CLECs with certain audit rights as a part of their individual interconnection agreements. If requested by a Public Service Commission, BellSouth will agree to undergo a SEEM audit. The audit should be conducted by an independent third party auditor. The results of audits will be made available to all the parties subject to proper safeguards to protect proprietary information. Audits will be conducted under the following specifications:

- 4.9.1.1 The cost shall be borne by BellSouth.

- 4.9.1.2 Should an independent third party auditor be required, it shall be selected by BellSouth and the PSC.

- 4.9.1.3 BellSouth and the PSC shall jointly determine the scope of the audit.

- 4.9.1.4 The PSC may request input regarding selection of the auditor from interested parties.

- 4.9.2 These audits are intended to provide the basis for the PSCs and CLECs to determine that SEEM produces accurate data that reflects each State's Order for performance measurements.

#### **4.10 Dispute Resolution**

- 4.10.1 Notwithstanding any other provision of the Interconnection Agreement between BellSouth and each CLEC, if a any dispute arises regarding BellSouth's performance or obligations pursuant to this Plan, BellSouth and the CLEC shall negotiate in good faith for a period of thirty (30) days to resolve the dispute. If at the conclusion of the 30 day period, BellSouth and the CLEC are unable to reach a resolution,

then the dispute shall be resolved by the Commission.

#### **4.11 Regional and State Coefficients**

Some metrics are calculated for the entire BellSouth region, rather than by state. Where these metrics are a Tier 1 SEEM submetric, a regional coefficient is calculated to determine the amount of the penalty for the CLEC in each state. For example, the Acknowledgement Completeness Measurement can be measured for an individual CLEC, but only at the regional level. In several states it is also a Tier 1 SEEM submetric. Thus, if there is a failure in this measurement for a CLEC, it is necessary to determine the amount of penalty for the CLEC in each state. A Regional Coefficient is used to do this. (Appendix E, Section E.6 describes the method of calculating the Regional Coefficients.) The amount of Tier 1 penalty for the CLEC in a state is determined by multiplying the regional affected volume by the Coefficient for the state and by the state fee.

A state coefficient is calculated to split Tier 2 payments for regional metrics among states by submetric.

## Appendix A: Fee Schedule

**Table 1: Fee Schedule for Tier 1 Per Transaction Fee Determination**

| Performance Measure             | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 |
|---------------------------------|---------|---------|---------|---------|---------|---------|
| OSS/Pre-Ordering                | \$10    | \$15    | \$20    | \$25    | \$30    | \$35    |
| Ordering                        | \$20    | \$25    | \$30    | \$35    | \$40    | \$45    |
| Service Order Accuracy          | \$20    | \$20    | \$20    | \$20    | \$20    | \$20    |
| Flow Through                    | \$40    | \$45    | \$50    | \$55    | \$60    | \$65    |
| Provisioning – Resale           | \$40    | \$50    | \$70    | \$100   | \$130   | \$200   |
| Provisioning – UNE              | \$115   | \$130   | \$145   | \$160   | \$190   | \$230   |
| Provisioning – UNEP             | \$55    | \$60    | \$70    | \$75    | \$90    | \$110   |
| Maintenance and Repair – Resale | \$40    | \$50    | \$70    | \$100   | \$130   | \$200   |
| Maintenance and Repair – UNE    | \$115   | \$130   | \$145   | \$160   | \$190   | \$230   |
| Maintenance and Repair - UNEP   | \$55    | \$60    | \$70    | \$75    | \$90    | \$110   |
| LNP                             | \$115   | \$190   | \$385   | \$460   | \$535   | \$615   |
| Billing – BIA (see Note 1)      | 2%      | 2%      | 2%      | 2%      | 2%      | 2%      |
| Billing – BIT                   | \$7     | \$7     | \$7     | \$7     | \$7     | \$7     |
| Billing – BUDT (see Note 2)     | \$0.046 | \$0.046 | \$0.046 | \$0.046 | \$0.046 | \$0.046 |
| Billing – BEC (see note 3)      | \$0.07  | \$0.07  | \$0.07  | \$0.07  | \$0.07  | \$0.07  |
| IC Trunks                       | \$25    | \$30    | \$45    | \$65    | \$80    | \$125   |
| Collocation                     | \$3,165 | \$3,165 | \$3,165 | \$3,165 | \$3,165 | \$3,165 |

Note 1: Reflects percent interest to be paid on adjusted amounts.

Note 2: Amount paid per 1000 usage records.

Note 3: Amount paid per dispute.

**Table 2: Tier 2 Per Transaction Fee Determination**

| <b>Measure</b>                  | <b>Retail Analogs</b>        |                      | <b>Benchmarks</b> |
|---------------------------------|------------------------------|----------------------|-------------------|
|                                 | <b>Between<br/>BCV and 0</b> | <b>Below<br/>BCV</b> |                   |
| OSS/Pre Ordering (note 1)       | \$6                          | -                    | \$30              |
| Ordering                        | -                            | -                    | \$60              |
| Service Order Accuracy          | -                            | -                    | \$60              |
| Flow Through                    | -                            | -                    | \$120             |
| Provisioning – Resale           | \$26                         | \$120                | -                 |
| Provisioning – UNE              | \$76                         | \$345                | \$345             |
| Provisioning – UNEP             | \$36                         | \$165                | -                 |
| Maintenance and Repair – Resale | \$26                         | \$120                | -                 |
| Maintenance and Repair – UNE    | \$76                         | \$345                | -                 |
| Maintenance and Repair – UNEP   | \$36                         | \$165                | -                 |
| LNP                             | \$36                         | \$165                | -                 |
| Billing – BIA (note 1)          | 1.3%                         | -                    | -                 |
| Billing – BIT (note 1)          | \$4                          | -                    | -                 |
| Billing – BUDT (note 1)         | \$.03                        | -                    | -                 |
| Billing – BEC (note 1)          | \$0.04                       | -                    | -                 |
| Change Management               | -                            | -                    | \$1,000           |
| IC Trunks                       | \$16                         | \$75                 | \$75              |
| Collocation                     | -                            | -                    | \$9,495           |

Note 1: The truncated Z does not apply to these measures.

## Appendix B: SEEM Submetrics

### B.1 Tier 1 Submetrics

| Item No. | SQM Ref | Tier 1 Submetric  |
|----------|---------|---|
| 1        | LMT     | PO-2 Loop Makeup – Response Time – Electronic - Loop                          |
| 2        | AKC     | O-2 Acknowledgement Message Completeness - Acknowledgments                    |
| 3        | FT      | O-3 Percent Flow-Through Service Requests – Business                          |
| 4        | FT      | O-3 Percent Flow-Through Service Requests – LNP                               |
| 5        | FT      | O-3 Percent Flow-Through Service Requests – Residence                         |
| 6        | FT      | O-3 Percent Flow-Through Service Requests – UNE-L (includes UNE-L with LNP)   |
| 7        | FT      | O-3 Percent Flow-Through Service Requests – UNE-P                             |
| 8        | RI      | O-8 Reject Interval – Fully Mechanized  |
| 9        | RI      | O-8 Reject Interval – Partially Mechanized                                    |
| 10       | RI      | O-8 Reject Interval – Non Mechanized  |
| 11       | FOCT    | O-9 Firm Order Confirmation Timeliness – Fully Mechanized                     |
| 12       | FOCT    | O-9 Firm Order Confirmation Timeliness – Partially Mechanized                 |
| 13       | FOCT    | O-9 Firm Order Confirmation Timeliness – Non Mechanized                       |
| 14       | FOCT    | O-9 Firm Order Confirmation Timeliness – Local Interconnection Trunks         |
| 15       | FOCC    | O-11 FOC & Reject Response Completeness – Fully Mechanized                    |
| 16       | FOCC    | O-11 FOC & Reject Response Completeness – Partially Mechanized                |
| 17       | FOCC    | O-11 FOC & Reject Response Completeness – Non Mechanized                      |
| 18       | MIA     | P-3 Percent Missed Installation Appointments – Resale POTS                    |
| 19       | MIA     | P-3 Percent Missed Installation Appointments – Resale Design                  |
| 20       | MIA     | P-3 Percent Missed Installation Appointments – UNE Loop and Port Combinations |
| 21       | MIA     | P-3 Percent Missed Installation Appointments – UNE Loops – Design             |
| 22       | MIA     | P-3 Percent Missed Installation Appointments – UNE Loops – Non-Design         |



| Item No. | SQM Ref | Tier 1 Submetric   |
|----------|---------|--|
| 23       | MIA     | P-3 Percent Missed Installation Appointments – UNE xDSL  |
| 24       | MIA     | P-3 Percent Missed Installation Appointments – UNE Line Splitting/Sharing                                    |
| 25       | MIA     | P-3 Percent Missed Installation Appointments – LNP Standalone  |
| 26       | MIA     | P-3 Percent Missed Installation Appointments – Local Interconnection Trunks                                  |
| 27       | OCI     | P-4 Order Completion Interval (OCI) – Resale POTS  |
| 28       | OCI     | P-4 Order Completion Interval (OCI) – Resale Design  |
| 29       | OCI     | P-4 Order Completion Interval (OCI) – UNE Loop and Port Combinations   |
| 30       | OCI     | P-4 Order Completion Interval (OCI) – UNE Loop Design  |
| 31       | OCI     | P-4 Order Completion Interval (OCI) – UNE Loop Non-Design  |
| 32       | OCI     | P-4 Order Completion Interval (OCI) – UNE xDSL – without conditioning  |
| 33       | OCI     | P-4 Order Completion Interval (OCI) – UNE xDSL – with conditioning   |
| 34       | OCI     | P-4 Order Completion Interval (OCI) – UNE Line Splitting/Sharing Dispatch                                    |
| 35       | OCI     | P-4 Order Completion Interval (OCI) – UNE Line Splitting/Sharing – Non-Dispatch                              |
| 36       | OCI     | P-4 Order Completion Interval (OCI) – Local interconnection Trunks   |
| 37       | OCI     | P-4 Order Completion Interval (OCI) – UNE EELS   |
| 38       | CCI     | P-7 Coordinated Customer Conversions – Hot Cut Durations   |
| 39       | CCT     | P-7A Coordinated Customer Conversions – Hot Cut Timeliness Percent within Interval                           |
| 40       | NCDD    | P-7D Non-Coordinated Customer Conversions – Percent Completed and Notified on Due Date                       |
| 41       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – Resale POTS                    |
| 42       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – Resale Design                  |
| 43       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Loop and Port Combinations |
| 44       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Loops – Design             |
| 45       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Loops – Non-Design         |

| <b>Item No.</b> | <b>SQM Ref</b> | <b>Tier 1 Submetric</b>   |
|-----------------|----------------|---|
| 46              | PPT            | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE xDSL                                  |
| 47              | PPT            | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Line Splitting/Sharing – Dispatch     |
| 48              | PPT            | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Line Splitting/Sharing – Non-Dispatch |
| 49              | PPT            | P-9 Percent Provisioning Troubles within X days of Service Order Completion – Local Interconnection Trunks              |
| 50              | SOA            | P-11 Service Order Accuracy – Resale  |
| 51              | SOA            | P-11 Service Order Accuracy – UNE   |
| 52              | SOA            | P-11 Service Order Accuracy – UNE-P   |
| 53              | LOOS           | P-13B LNP – Percent Out of Service < 60 Minutes - LNP   |
| 54              | LAT            | P-13C LNP Percent of Time BellSouth Applies the 10-Digit Trigger Prior to the LNP Order Due Date – LNP – (Standalone)   |
| 55              | LDT            | P-13D LNP – Disconnect Timeliness (Non-Trigger)   |
| 56              | MRA            | MR-1 Percent Missed Repair Appointment – Resale POTS  |
| 57              | MRA            | MR-1 Percent Missed Repair Appointment – Resale Design  |
| 58              | MRA            | MR-1 Percent Missed Repair Appointment – UNE Loop and Port Combinations   |
| 59              | MRA            | MR-1 Percent Missed Repair Appointment – UNE Loops Design   |
| 60              | MRA            | MR-1 Percent Missed Repair Appointment – UNE Loops Non-Design   |
| 61              | MRA            | MR-1 Percent Missed Repair Appointment – UNE xDSL   |
| 62              | MRA            | MR-1 Percent Missed Repair Appointment – UNE Line Splitting/Sharing   |
| 63              | MRA            | MR-1 Percent Missed Repair Appointment – Local Interconnection Trunks   |
| 64              | CTRR           | MR-2 Customer Trouble Report Rate – Resale POTS   |
| 65              | CTRR           | MR-2 Customer Trouble Report Rate – Resale Design   |
| 66              | CTRR           | MR-2 Customer Trouble Report Rate – UNE Loop and Port Combinations  |
| 67              | CTRR           | MR-2 Customer Trouble Report Rate – UNE Loops Design  |
| 68              | CTRR           | MR-2 Customer Trouble Report Rate – UNE Loops Non-Design  |
| 69              | CTRR           | MR-2 Customer Trouble Report Rate – UNE xDSL  |
| 70              | CTRR           | MR-2 Customer Trouble Report Rate – UNE Line Splitting/Sharing  |

| <b>Item No.</b> | <b>SQM Ref</b> | <b>Tier 1 Submetric</b>   |
|-----------------|----------------|---|
| 71              | CTRR           | MR-2 Customer Trouble Report Rate – Local Interconnection Trunks                      |
| 72              | MAD            | MR-3 Maintenance Average Duration – Resale POTS                                       |
| 73              | MAD            | MR-3 Maintenance Average Duration – Resale Design                                     |
| 74              | MAD            | MR-3 Maintenance Average Duration – UNE Loop and Port Combinations                    |
| 75              | MAD            | MR-3 Maintenance Average Duration – UNE Loops Design                                  |
| 76              | MAD            | MR-3 Maintenance Average Duration – UNE Loops Non-Design                              |
| 77              | MAD            | MR-3 Maintenance Average Duration – UNE xDSL  |
| 78              | MAD            | MR-3 Maintenance Average Duration – UNE Line Splitting/Sharing                        |
| 79              | MAD            | MR-3 Maintenance Average Duration – Local Interconnection Trunks                      |
| 80              | PRT            | MR-4 Percent Repeat Customer Troubles within 30 Days – Resale POTS                    |
| 81              | PRT            | MR-4 Percent Repeat Customer Troubles within 30 Days – Resale Design                  |
| 82              | PRT            | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE Loop and Port Combinations |
| 83              | PRT            | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE Loops Design               |
| 84              | PRT            | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE Loops Non-Design           |
| 85              | PRT            | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE xDSL                       |
| 86              | PRT            | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE Line Splitting/Sharing     |
| 87              | PRT            | MR-4 Percent Repeat Customer Troubles within 30 Days – Local Interconnection Trunks   |
| 88              | OOS            | MR-5 Out of Service (OOS) > 24 hours – Resale POTS                                    |
| 89              | OOS            | MR-5 Out of Service (OOS) > 24 hours – Resale Design                                  |
| 90              | OOS            | MR-5 Out of Service (OOS) > 24 hours – UNE Loop and Port Combinations                 |
| 91              | OOS            | MR-5 Out of Service (OOS) > 24 hours – UNE Loops Design                               |
| 92              | OOS            | MR-5 Out of Service (OOS) > 24 hours – UNE Loops Non-Design                           |
| 93              | OOS            | MR-5 Out of Service (OOS) > 24 hours – UNE xDSL                                       |
| 94              | OOS            | MR-5 Out of Service (OOS) > 24 hours – UNE Line Splitting/Sharing                     |
| 95              | OOS            | MR-5 Out of Service (OOS) > 24 hours – Local Interconnection Trunks                   |
| 96              | BIA            | B-1 Invoice Accuracy  |

| <b>Item No.</b> | <b>SQM Ref</b> | <b>Tier 1 Submetric</b>   |
|-----------------|----------------|---|
| 97              | BIT            | B-2 Mean Time to Deliver Invoices – CRIS  |
| 98              | BIT            | B-2 Mean Time to Deliver Invoices – CABS  |
| 99              | BUDT           | B-5 Usage Data Delivery Timeliness  |
| 100             | BEC            | B-10 Percent Billing Adjustment Requests (BAR) Responded to within 45 Business Days – State |
| 101             | TGP            | TGP Trunk Group Performance   |
| 102             | MDD            | C-3 Collocation Percent of Due Dates Missed   |

**B.2 Tier 2 Submetrics**

| <b>Item No.</b> | <b>SQM Ref</b> | <b>Tier 2 Submetric</b>   |
|-----------------|----------------|---|
| 1               | ARI            | OSS-1 OSS Response Interval (Pre-Ordering/Ordering) – LENS                              |
| 2               | ARI            | OSS-1 OSS Response Interval (Pre-Ordering/Ordering) – TAG/XML                           |
| 3               | ARI            | OSS-1 OSS Response Interval (Maintenance & Repair)                                      |
| 4               | IA             | OSS-2 OSS Interface Availability – (Pre-Ordering/Ordering) – Regional per OSS Interface |
| 5               | IA             | OSS-2 OSS Interface Availability – (Maintenance & Repair) – Regional per OSS Interface  |
| 6               | LMT            | PO-2 Loop Makeup – Response Time – Electronic – Loop                                    |
| 7               | AKC            | O-2 Acknowledgement Message Completeness – Acknowledgments                              |
| 8               | FT             | O-3 Percent Flow-Through Service Requests – Business                                    |
| 9               | FT             | O-3 Percent Flow-Through Service Requests – LNP   |
| 10              | FT             | O-3 Percent Flow-Through Service Requests – Residence                                   |
| 11              | FT             | O-3 Percent Flow-Through Service Requests – UNE-L (includes UNE-L with LNP)             |
| 12              | FT             | O-3 Percent Flow-Through Service Requests – UNE-P                                       |
| 13              | RI             | O-8 Reject Interval – Fully Mechanized  |
| 14              | RI             | O-8 Reject Interval – Partially Mechanized  |
| 15              | RI             | O-8 Reject Interval – Non Mechanized  |
| 16              | FOCT           | O-9 Firm Order Confirmation Timeliness – Fully Mechanized                               |
| 17              | FOCT           | O-9 Firm Order Confirmation Timeliness – Partially Mechanized                           |
| 18              | FOCT           | O-9 Firm Order Confirmation Timeliness – Non Mechanized                                 |
| 19              | FOCT           | O-9 Firm Order Confirmation Timeliness – Local Interconnection Trunks                   |
| 20              | FOCC           | O-11 FOC & Reject Response Completeness – Fully Mechanized                              |
| 21              | FOCC           | O-11 FOC & Reject Response Completeness – Partially Mechanized                          |
| 22              | FOCC           | O-11 FOC & Reject Response Completeness – Non Mechanized                                |
| 23              | OAAT           | O-12 Average Answer Time – Ordering Centers – CLEC Local Carrier Service Center         |
| 24              | MIA            | P-3 Percent Missed Installation Appointments – Resale POTS                              |

| Item No. | SQM Ref | Tier 2 Submetric  |
|----------|---------|---|
| 25       | MIA     | P-3 Percent Missed Installation Appointments – Resale Design                                |
| 26       | MIA     | P-3 Percent Missed Installation Appointments – UNE Loop and Port Combinations               |
| 27       | MIA     | P-3 Percent Missed Installation Appointments – UNE Loops – Design                           |
| 28       | MIA     | P-3 Percent Missed Installation Appointments – UNE Loops – Non-Design                       |
| 29       | MIA     | P-3 Percent Missed Installation Appointments – UNE xDSL                                     |
| 30       | MIA     | P-3 Percent Missed Installation Appointments – UNE Line Splitting/Sharing                   |
| 31       | MIA     | P-3 Percent Missed Installation Appointments – LNP Standalone                               |
| 32       | MIA     | P-3 Percent Missed Installation Appointments – Local Interconnection Trunks                 |
| 33       | OCI     | P-4 Order Completion Interval (OCI) – Resale POTS   |
| 34       | OCI     | P-4 Order Completion Interval (OCI) – Resale Design   |
| 35       | OCI     | P-4 Order Completion Interval (OCI) – UNE Loop and Port Combinations                        |
| 36       | OCI     | P-4 Order Completion Interval (OCI) – UNE Loop Design                                       |
| 37       | OCI     | P-4 Order Completion Interval (OCI) – UNE Loop Non-Design                                   |
| 38       | OCI     | P-4 Order Completion Interval (OCI) – UNE xDSL – without conditioning                       |
| 39       | OCI     | P-4 Order Completion Interval (OCI) – UNE xDSL – with conditioning                          |
| 40       | OCI     | P-4 Order Completion Interval (OCI) – UNE Line Splitting/Sharing Dispatch                   |
| 41       | OCI     | P-4 Order Completion Interval (OCI) – UNE Line Splitting/Sharing – Non-Dispatch             |
| 42       | OCI     | P-4 Order Completion Interval (OCI) – Local interconnection Trunks                          |
| 43       | OCI     | P-4 Order Completion Interval (OCI) – UNE EELS  |
| 44       | CCI     | P-7 Coordinated Customer Conversions – Hot Cut Durations                                    |
| 45       | CCT     | P-7A Coordinated Customer Conversions – Hot Cut Timeliness Percent within Interval          |
| 46       | NCDD    | P-7D Non-Coordinated Customer Conversions – Percent Completed and Notified on Due Date      |
| 47       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – Resale POTS   |
| 48       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – Resale Design |
| 49       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion –               |

| Item No. | SQM Ref | Tier 2 Submetric  |
|----------|---------|---|
|          |         | UNE Loop and Port Combinations  |
| 50       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Loops – Design                        |
| 51       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Loops – Non-Design                    |
| 52       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE xDSL                                  |
| 53       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Line Splitting/Sharing – Dispatch     |
| 54       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – UNE Line Splitting/Sharing – Non-Dispatch |
| 55       | PPT     | P-9 Percent Provisioning Troubles within X days of Service Order Completion – Local Interconnection Trunks              |
| 56       | SOA     | P-11 Service Order Accuracy – Resale  |
| 57       | SOA     | P-11 Service Order Accuracy – UNE   |
| 58       | SOA     | P-11 Service Order Accuracy – UNE-P   |
| 59       | LOOS    | P-13B LNP – Percent Out of Service < 60 Minutes - LNP   |
| 60       | LAT     | P-13C LNP Percent of Time BellSouth Applies the 10-Digit Trigger Prior to the LNP Order Due Date – LNP – (Standalone)   |
| 61       | LDT     | P-13D LNP – Disconnect Timeliness (Non-Trigger)   |
| 62       | MRA     | MR-1 Percent Missed Repair Appointment – Resale POTS  |
| 63       | MRA     | MR-1 Percent Missed Repair Appointment – Resale Design  |
| 64       | MRA     | MR-1 Percent Missed Repair Appointment – UNE Loop and Port Combinations   |
| 65       | MRA     | MR-1 Percent Missed Repair Appointment – UNE Loops Design   |
| 66       | MRA     | MR-1 Percent Missed Repair Appointment – UNE Loops Non-Design   |
| 67       | MRA     | MR-1 Percent Missed Repair Appointment – UNE xDSL   |
| 68       | MRA     | MR-1 Percent Missed Repair Appointment – UNE Line Splitting/Sharing   |
| 69       | MRA     | MR-1 Percent Missed Repair Appointment – Local Interconnection Trunks   |
| 70       | CTRR    | MR-2 Customer Trouble Report Rate – Resale POTS   |
| 71       | CTRR    | MR-2 Customer Trouble Report Rate – Resale Design   |
| 72       | CTRR    | MR-2 Customer Trouble Report Rate – UNE Loop and Port Combinations  |

| Item No. | SQM Ref | Tier 2 Submetric  |
|----------|---------|---|
| 73       | CTRR    | MR-2 Customer Trouble Report Rate – UNE Loops Design                                  |
| 74       | CTRR    | MR-2 Customer Trouble Report Rate – UNE Loops Non-Design                              |
| 75       | CTRR    | MR-2 Customer Trouble Report Rate – UNE xDSL  |
| 76       | CTRR    | MR-2 Customer Trouble Report Rate – UNE Line Splitting/Sharing                        |
| 77       | CTRR    | MR-2 Customer Trouble Report Rate – Local Interconnection Trunks                      |
| 78       | MAD     | MR-3 Maintenance Average Duration – Resale POTS                                       |
| 79       | MAD     | MR-3 Maintenance Average Duration – Resale Design                                     |
| 80       | MAD     | MR-3 Maintenance Average Duration – UNE Loop and Port Combinations                    |
| 81       | MAD     | MR-3 Maintenance Average Duration – UNE Loops Design                                  |
| 82       | MAD     | MR-3 Maintenance Average Duration – UNE Loops Non-Design                              |
| 83       | MAD     | MR-3 Maintenance Average Duration – UNE xDSL  |
| 84       | MAD     | MR-3 Maintenance Average Duration – UNE Line Splitting/Sharing                        |
| 85       | MAD     | MR-3 Maintenance Average Duration – Local Interconnection Trunks                      |
| 86       | PRT     | MR-4 Percent Repeat Customer Troubles within 30 Days – Resale POTS                    |
| 87       | PRT     | MR-4 Percent Repeat Customer Troubles within 30 Days – Resale Design                  |
| 88       | PRT     | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE Loop and Port Combinations |
| 89       | PRT     | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE Loops Design               |
| 90       | PRT     | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE Loops Non-Design           |
| 91       | PRT     | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE xDSL                       |
| 92       | PRT     | MR-4 Percent Repeat Customer Troubles within 30 Days – UNE Line Splitting/Sharing     |
| 93       | PRT     | MR-4 Percent Repeat Customer Troubles within 30 Days – Local Interconnection Trunks   |
| 94       | OOS     | MR-5 Out of Service (OOS) > 24 hours – Resale POTS                                    |
| 95       | OOS     | MR-5 Out of Service (OOS) > 24 hours – Resale Design                                  |
| 96       | OOS     | MR-5 Out of Service (OOS) > 24 hours – UNE Loop and Port Combinations                 |
| 97       | OOS     | MR-5 Out of Service (OOS) > 24 hours – UNE Loops Design                               |
| 98       | OOS     | MR-5 Out of Service (OOS) > 24 hours – UNE Loops Non-Design                           |



| <b>Item No.</b> | <b>SQM Ref</b> | <b>Tier 2 Submetric</b>   |
|-----------------|----------------|---|
| 99              | OOS            | MR-5 Out of Service (OOS) > 24 hours – UNE xDSL   |
| 100             | OOS            | MR-5 Out of Service (OOS) > 24 hours – UNE Line Splitting/Sharing                                   |
| 101             | OOS            | MR-5 Out of Service (OOS) > 24 hours – Local Interconnection Trunks                                 |
| 102             | BIA            | B-1 Invoice Accuracy  |
| 103             | BIT            | B-2 Mean Time to Deliver Invoices – CRIS  |
| 104             | BIT            | B-2 Mean Time to Deliver Invoices – CABS  |
| 105             | BUDT           | B-5 Usage Data Delivery Timeliness  |
| 106             | BEC            | B-10 Percent Billing Adjustment Requests (BAR) Responded to within 45 Business Days – State         |
| 107             | TGP            | TGP Trunk Group Performance   |
| 108             | MDD            | C-3 Collocation Percent of Due Dates Missed   |
| 109             | NT             | CM-1 Timelines of Change Management Notices – Region  |
| 110             | DT             | CM-3 Timeliness of Documentation Associated with Change – Region                                    |
| 111             | SEC            | CM-6 Percentage of Software Errors Corrected in "X" Business Days – Region                          |
| 112             | CRA            | CM-7 Percentage of Change Requests Accepted or Rejected Within 10 Days – Region                     |
| 113             | SCRI           | CM-11 Percentage of Software Change Requests Implemented Within 60 Weeks of Prioritization – Region |

## Appendix C: Statistical Properties and Definitions

The statistical process for testing whether BellSouth's (BST) wholesale customers (alternative local exchange carriers or CLEC) are being treated equally with BST's retail customers involves more than a simple mathematical formula. Three key elements need to be considered before an appropriate decision process can be developed. These are the type of:

- data
- comparison
- performance

This section describes the properties of a test methodology and the truncated Z statistic for three types of measures.

### C.1 Necessary Properties for a Test Methodology

Once the key elements are determined, a test methodology should be developed that complies with the following properties:

- Like-to-Like Comparisons
- Overall Level Test Statistic
- Production Mode Process
- Balancing

#### C.1.1 Like-to-Like Comparisons

When possible, data should be compared at appropriate levels, e.g. wire center, time of month, dispatched residential, new orders. The testing process should:

- Identify variables that may affect the performance measure
- Record these important confounding covariates
- Adjust for the observed covariates in order to remove potential biases and to make the CLEC and the ILEC units as comparable as possible

#### C.1.2 Overall Level Test Statistic

Each performance measure of interest should be summarized by one overall test statistic giving the decision maker a rule that determines whether a statistically significant difference exists. The test statistic should have the following properties:

- The method should provide a single overall index on a standard scale.
- If entries in comparison cells are exactly proportional over a covariate, the aggregated index should be very nearly the same as if comparisons on

the covariate had not been done.

- The contribution of each comparison cell should depend on the number of observations in the cell.
- Cancellation between comparison cells should be limited.
- The index should be a continuous function of the observations.

### C.1.3 Production Mode Process

The decision system must be developed so that it does not require intermediate manual intervention, i.e., the process must be mechanized to the extent possible.

- Calculations are well defined for possible eventualities.
- The decision process is an algorithm that needs no manual intervention.
- Results should be arrived at in a timely manner.
- The system must recognize that resources are needed for other performance measure-related processes that also must be run in a timely manner.
- The system should be auditable, and adjustable over time.

### C.1.4 Balancing

The testing methodology should balance Type I and Type II Error probabilities.

- $P(\text{Type I Error}) = P(\text{Type II Error})$  for well-defined null and alternative hypotheses.
- The formula for a test's balancing critical value should be simple enough to calculate using standard mathematical functions, i.e., one should avoid methods that require computationally intensive techniques.
- Little to no information beyond the null hypothesis, the alternative hypothesis, and the number of observations should be required for calculating the balancing critical value.

### C.1.5 Measurement Types

The performance measurements that will undergo testing are of three types: mean, proportion, and rate. All three have similar characteristics. Different types of data are used to calculate them. Table C-1 shows the type of data that is used to derive each measurement type.

**Table C-1: Measurement Types and Data**

| Measurement Type | Data Used to Derive Measure |
|------------------|-----------------------------|
| Mean             | Interval Measurements       |
| Proportion       | Counts                      |
| Rate             |                             |

## C.2 Testing Methodology – The Truncated Z

In summary, many covariates are chosen in order to provide meaningful comparison levels below the submetric level chosen for the parity comparison. This includes such factors as wire center and time of month, as well as order type for provisioning measures. In each comparison cell, a Z statistic is calculated. The form of the Z statistic may vary depending on the performance measure, but it should be distributed approximately as a standard normal, with mean zero and variance equal to one. Assuming that the test statistic is derived so that it is negative when the performance for the CLEC is worse than for the ILEC, a positive truncation is done – i.e. if the result is negative it is left alone, if the result is positive it is changed to zero. A weighted average of the truncated statistics is calculated where a cell's weight depends on the volume of BST and CLEC orders in the cell. The weighted average is standardized by subtracting the theoretical mean of the truncated distribution, and this is divided by the standard error of the weighted average. Summaries based on measurement type are given for the calculation of the cell Z statistic.

Additionally, there are measures that are compared to a retail analog at least in part where cell definitions do not exist that permit assignment of data for these measures to cells so the truncated Z statistic cannot be calculated. There measures are:

- Average Response Interval (M&R)
- Billing Invoice Accuracy
- Billing Invoice Timeliness
- Speed of Answer in the Ordering Center

In addition, there are two measurements that use retail results 'plus' (2 seconds for OSS Response Time; 0.5% for Trunk Blocking) resulting in a benchmark standard. These measurements are: OSS Average Response Time & Response Interval (Pre-Ordering) and Trunk Group Performance.

As an example of one approach taken for a parity measure that does not use the truncated Z methodology, consider the measure Billing Invoice Accuracy. In South Carolina, BellSouth calculates results for this measure by subtracting the Absolute Value of Total Related Adjustments during the current month from the Absolute Value of Total Billed Revenues during the current month then dividing these results by the Absolute Value of Total Billed Revenues during the current month and multiplying these results by 100. The formula is as follows:

$$\text{Invoice Accuracy} = [(a - b)/a] \times 100$$

**a** = Absolute Value of Total Billed Revenues during current month

**b** = Absolute Value of Total Billing Related Adjustments during current month

A numerical example of the penalty calculation is given below:

Example:

**CLEC DATA**

|                      |              |
|----------------------|--------------|
| Bill Adjustments     | \$14,660.00  |
| Total Billed Revenue | \$336,529.00 |

**BellSouth DATA**

|                      |                  |
|----------------------|------------------|
| Bill Adjustments     | \$6,018,969.26   |
| Total Billed Revenue | \$484,691,922.40 |

CLEC Invoice Accuracy Ratio =  $[(336,529.00 - 14,660.00) / 336,529.00] \times 100 = 96.00$

BST Invoice Accuracy Ratio =  $[(484,691,922.40 - 6,018,969.26) / 484,691,922.40] \times 100 = 98.75$

Thus, the calculated values are:

CLEC Result = 96%

BellSouth Result = 98.75%

In South Carolina once it is determined that the BST percent is higher, BellSouth pays the CLEC according to the South Carolina Fee Schedule.

The calculation would be 2% of the adjustment =  $\$14,660 \times .02 = \$293.20$ .

### **C.2.1 Mean Measures**

For mean measures, an adjusted, asymmetric t statistic is calculated for each like-to-like cell that has at least seven BST and seven CLEC transactions. A permutation test is used when one or both of the BST and CLEC sample sizes is less than seven. The adjusted, asymmetric t statistic and the permutation calculation are described in Appendix D, Statistical Formulas and Technical Description.

### **C.2.2 Proportion Measures**

For performance measures that are calculated as a proportion, in each adjustment cell, the cell Z and the moments for the truncated cell Z can be calculated in a direct manner. In adjustment cells where proportions are not close to zero or one, and where the sample sizes are reasonably large ( $n_{ij}p_{ij}(1-p_{ij}) > 9$ ), a normal approximation can be used. In this case, the

moments for the truncated Z come directly from properties of the standard normal distribution. If the normal approximation is not appropriate, then the Z statistic is calculated from the hypergeometric distribution. In this case, the moments of the truncated Z are calculated exactly using the hypergeometric probabilities.

### **C.2.3 Rate Measures**

The truncated Z methodology for rate measures has the same general structure for calculating the Z in each cell as proportion measures. For the rate measure customer trouble report rate there are a fixed number of access lines in service for the CLEC,  $b_{2j}$ , and a fixed number for BST,  $b_{1j}$ . The modeling assumption is that the occurrence of a trouble is independent between access lines, and the number of troubles in  $b$  access lines follows a Poisson distribution with mean  $\lambda_b$  where  $\lambda$  is the probability of a trouble per 1 access line and  $b (= b_{1j} + b_{2j})$  is the total number of access lines in service. The exact permutation distribution for this situation is the binomial distribution (the limit for the hypergeometric distribution) that is based on the total number of BST and CLEC troubles,  $n$ , and the proportion of BST access lines in service,  $q_j = b_{1j}/b$ .

In an adjustment cell, if the number of CLEC troubles is greater than 15 and the number of BST troubles is greater than 15, and  $n_{ij}q_{ij}(1-q_{ij}) > 9$ , then a normal approximation can be used. In this case, the moments of the truncated Z come directly from properties of the standard normal distribution. Otherwise, if there are very few troubles, the number of CLEC troubles can be modeled using a binomial distribution with  $n$  equal to the total number of troubles (CLEC plus BST troubles.) In this case, the moments for the truncated Z are calculated explicitly using the binomial distribution.

## Appendix D: Statistical Formulas and Technical Descriptions

We start by assuming that the data are disaggregated so that comparisons are made within appropriate classes or adjustment cells that define “like” observations.

### D.1 Notation and Exact Testing Distributions

Below, we have detailed the basic notation for the construction of the truncated Z statistic. In what follows the word “cell” should be taken to mean a like-to-like comparison cell that has both one (or more) ILEC observation and one (or more) CLEC observation.

|                 |  |
|-----------------|--|
| $L =$           | the total number of occupied cells   |
| $j =$           | $1, \dots, L$ ; an index for the cells   |
| $n_{1j} =$      | the number of ILEC transactions in cell $j$  |
| $n_{2j} =$      | the number of CLEC transactions in cell $j$  |
| $n_j =$         | the total number transactions in cell $j$ ; $n_{1j} + n_{2j}$  |
| $X_{1jk} =$     | Individual ILEC transactions in cell $j$ ; $k = 1, \dots, n_{1j}$                                    |
| $X_{2jk} =$     | Individual CLEC transactions in cell $j$ ; $k = 1, \dots, n_{2j}$                                    |
| $Y_{jk} =$      | individual transaction (both ILEC and CLEC) in cell $j$  |
|                 | $= \begin{cases} X_{1jk} & k = 1, \dots, n_{1j} \\ X_{2jk} & k = n_{1j} + 1, \dots, n_j \end{cases}$ |
| $\Phi^{-1}() =$ | the inverse of the cumulative standard normal distribution function                                  |

For Mean Performance Measures the following additional notation is needed.

$$\bar{X}_{1j} = \text{The ILEC sample mean of cell } j$$

$$\bar{X}_{2j} = \text{The CLEC sample mean of cell } j$$

$$s_{1j}^2 = \text{The ILEC sample variance in cell } j$$

$$s_{2j}^2 = \text{The CLEC sample variance in cell } j$$

$$\{y_{jk}\} = \text{a random sample of size } n_{2j} \text{ from the set of } Y_{j1}, \dots, Y_{jn_j}; k = 1, \dots, n_{2j}$$

$$M_j = \text{The total number of distinct pairs of samples of size } n_{1j} \text{ and } n_{2j};$$

$$= \binom{n_j}{n_{1j}}$$

The exact parity test is the permutation test based on the “modified Z” statistic. For large samples, we can avoid permutation calculations since this statistic will be normal (or Student's t) to a good approximation. For small samples, where we cannot avoid permutation calculations, we have found that the difference between “modified Z” and the textbook “pooled Z” is negligible. We therefore propose to use the permutation test based on pooled Z for small samples. This decision speeds up the permutation computations considerably, because for each permutation we need only compute the sum of the CLEC sample values, and not the pooled statistic itself.

A permutation probability mass function distribution for cell j, based on the “pooled Z” can be written as

$$PM(t) = P\left(\sum_k y_{jk} = t\right) = \frac{\text{the number of samples that sum to } t}{M_j}$$

and the corresponding cumulative permutation distribution is

$$CPM(t) = P\left(\sum_k y_{jk} \leq t\right) = \frac{\text{the number of samples with sum } \leq t}{M_j}$$



For Proportion Performance Measures the following notation is defined:

- $a_{1j}$  = The number of ILEC cases possessing an attribute of interest in cell j
- $a_{2j}$  = The number of CLEC cases possessing an attribute of interest in cell j
- $a_j$  = The number of cases possessing an attribute of interest in cell j;  
 $a_{1j} + a_{2j}$

The exact distribution for a parity test is the hypergeometric distribution. The hypergeometric probability mass function distribution for cell j is

$$HG(h) = P(H = h) = \begin{cases} \frac{\binom{n_{1j}}{h} \binom{n_{2j}}{a_j - h}}{\binom{n_j}{a_j}}, & \max(0, a_j - n_{2j}) \leq h \leq \min(a_j, n_{1j}) \\ 0 & \text{otherwise} \end{cases}$$

and the cumulative hypergeometric distribution is

$$CHG(x) = P(H \leq x) = \begin{cases} 0 & x < \max(0, a_j - n_{2j}) \\ \sum_{h=\max(0, a_j - n_{1j})}^x HG(h), & \max(0, a_j - n_{2j}) \leq x \leq \min(a_j, n_{1j}) \\ 1 & x > \min(a_j, n_{1j}) \end{cases}$$

For Rate Performance Measures, the notation needed is defined as:

- $b_{1j}$  = the number of ILEC base elements in cell j
- $b_{2j}$  = the number of CLEC base elements in cell j
- $b_j$  = the total number of base elements in cell j;  $b_{1j} + b_{2j}$
- $r_{1j}$  = the ILEC sample rate of cell j;  $n_{1j} / b_{1j}$
- $r_{2j}$  = the ILEC sample rate of cell j;  $n_{2j} / b_{2j}$
- $q_j$  = the relative proportion of ILEC elements for cell j;  $b_{1j} / b_j$

The exact distribution for a parity test is the binomial distribution. The binomial probability mass function distribution for cell j is:

$$BN(k) = P(B = k) = \begin{cases} \binom{n_j}{k} q_j^k (1 - q_j)^{n_j - k}, & 0 \leq k \leq n_j \\ 0 & \text{otherwise} \end{cases}$$

and the cumulative binomial distribution is

$$CBN(x) = P(B \leq x) = \begin{cases} 0 & x < 0 \\ \sum_{k=0}^x BN(k), & 0 \leq x \leq n_j \\ 1 & x > n_j \end{cases}$$

## D.2 Calculating the Truncated Z

The general methodology for calculating an overall level test statistic is outlined below.

### D.2.1 Calculate Cell Weights ( $W_j$ )

A weight based on the number of transactions is used so that a cell, which has a larger number of transactions, has a larger weight. The actual weight formula will depend on the type of measure.

#### Mean Measure

$$W_j = \sqrt{\frac{n_{1j}n_{2j}}{n_j}}$$

#### Proportion Measure

$$W_j = \sqrt{\frac{n_{2j}n_{1j}}{n_j} \cdot \frac{a_j}{n_j} \cdot \left(1 - \frac{a_j}{n_j}\right)}$$

#### Rate Measures

$$W_j = \sqrt{\frac{b_{1j}b_{2j}}{b_j} \cdot \frac{n_j}{b_j}}$$

### D.2.2 Calculate a Z Value ( $Z_j$ ) for each Cell

A Z statistic with mean 0 and variance 1 is needed for each cell.

- If  $W_j = 0$ , set  $Z_j = 0$ .
- Otherwise, the actual Z statistic calculation depends on the type of performance measure.

**Mean Measure**

$$Z_j = \Phi^{-1}(\alpha)$$

where  $\alpha$  is determined by the following algorithm.

If the two means are equal and the two variances are zero, set the cell Z score to zero.

If  $\min(n_{1j}, n_{2j}) > 6$ , then determine  $\alpha$  as

$$\alpha = P(t_{n_{1j}-1} \leq T_j)$$

that is,  $\alpha$  is the probability that a t random variable with  $n_{1j} - 1$  degrees of freedom, is less than

$$T_j = \begin{cases} t_j + \frac{g}{6} \left( \frac{n_{1j} + 2n_{2j}}{\sqrt{n_{1j} n_{2j} (n_{1j} + n_{2j})}} \right) \left( t_j^2 + \frac{n_{2j} - n_{1j}}{n_{1j} + 2n_{2j}} \right) & t_j \geq t_{\min j} \\ t_j + \frac{g}{6} \left( \frac{n_{1j} + 2n_{2j}}{\sqrt{n_{1j} n_{2j} (n_{1j} + n_{2j})}} \right) \left( t_{\min j}^2 + \frac{n_{2j} - n_{1j}}{n_{1j} + 2n_{2j}} \right) & \text{otherwise} \end{cases}$$

where

$$t_j = \frac{\bar{X}_{1j} - \bar{X}_{2j}}{s_{1j} \sqrt{\frac{1}{n_{1j}} + \frac{1}{n_{2j}}}}$$

$$t_{\min j} = \frac{-3\sqrt{n_{1j} n_{2j} n_j}}{g(n_{1j} + 2n_{2j})}$$

and  $g$  is the median value of all values of

$$\gamma_{1j} = \frac{n_{1j}}{(n_{1j} - 1)(n_{1j} - 2)} \sum_k \left( \frac{X_{1jk} - \bar{X}_{1j}}{s_{1j}} \right)^3$$

over all cells within the submeasure being tested such that all three conditions stated below are true. If no submeasure cells exist that satisfy these conditions, then  $g = 0$ .

$$\gamma_{1j} > 0$$

$$n_{1j} > 6$$

$n_{1j} \geq n_{3q}$  for all values of  $j$ .  $n_{3q}$  is the 3<sup>rd</sup> quartile of all values of  $n_{1j}$  in cells where the first two conditions are true.

Note, that  $t_j$  is the “modified Z” statistic. The statistic  $T_j$  is a “modified Z” corrected for the skewness of the ILEC data.

If  $\min(n_{1j}, n_{2j}) \leq 6$ , and

- $M_j \leq 1,000$  (the total number of distinct pairs of samples of size  $n_{1j}$  and  $n_{2j}$  is 1,000 or less)
  - Calculate the sample sum for all possible samples of size  $n_{2j}$ .
  - Rank the sample sums from smallest to largest. Ties are dealt by using average ranks.
  - Let  $R_0$  be the rank of the observed sample sum with respect to all the sample sums.

$$\alpha = 1 - \frac{R_0 - 0.5}{M_j}$$

- $M_j > 1,000$ 
  - Draw a random sample of 1,000 sample sums from the permutation distribution.
  - Add the observed sample sum to the list. There are a total of 1001 sample sums. Rank the sample sums from smallest to largest. Ties are dealt by using average ranks.
  - Let  $R_0$  be the rank of the observed sample sum with respect all the sample sums.

$$\alpha = 1 - \frac{R_0 - 0.5}{1001}$$

#### Proportion Measure

$$Z_j = \frac{n_j a_{1j} - n_{1j} a_j}{\sqrt{\frac{n_{1j} n_{2j} a_j (n_j - a_j)}{n_j - 1}}}$$

#### Rate Measure

$$Z_j = \frac{n_{1j} - n_j q_j}{\sqrt{n_j q_j (1 - q_j)}}$$

### D.2.3 Obtain a Truncated Z Value for each Cell ( $Z_j^*$ )

To limit the amount of cancellation that takes place between cell results during aggregation, cells whose results suggest possible favoritism are left alone. Otherwise the cell statistic is set to zero. This means that positive

equivalent Z values are set to 0, and negative values are left alone. Mathematically, this is written as

$$\underline{Z_j^* = \min(0, Z_j)}$$

#### D.2.4 Calculate the Theoretical Mean and Variance

Calculate the theoretical mean and variance of the truncated statistic under the null hypothesis of parity,  $E(Z_j^* | H_0)$  and  $\text{Var}(Z_j^* | H_0)$ . To compensate for the truncation in step 3, an overall, weighted sum of the  $Z_j^*$  will need to be centered and scaled properly so that the final overall statistic follows a standard normal distribution.

- If  $W_j = 0$ , then no evidence of favoritism is contained in the cell. The formulae for calculating  $E(Z_j^* | H_0)$  and  $\text{Var}(Z_j^* | H_0)$  cannot be used. Set both equal to 0.
- If  $\min(n_{1j}, n_{2j}) > 6$  for a mean measure, or  $\min\left\{a_{1j}\left(1 - \frac{a_{1j}}{n_{1j}}\right), a_{2j}\left(1 - \frac{a_{2j}}{n_{2j}}\right)\right\} > 9$  for a proportion measure, then

$$E(Z_j^* | H_0) = -\frac{1}{\sqrt{2\pi}}$$

and

$$\text{Var}(Z_j^* | H_0) = \frac{1}{2} - \frac{1}{2\pi}$$

- Otherwise, determine the total number of values for  $Z_j^*$ . Let  $z_{ji}$  and  $\theta_{ji}$ , denote the values of  $Z_j^*$  and the probabilities of observing each value, respectively.

$$E(Z_j^* | H_0) = \sum_i \theta_{ji} z_{ji}$$

and

$$\text{Var}(Z_j^* | H_0) = \sum_i \theta_{ji} z_{ji}^2 - [E(Z_j^* | H_0)]^2$$

The actual values of the z's and  $\theta$ 's depends on the type of measure.

##### Mean Measure

$$N_j = \min(M_j, 1,000), \quad i = 1, \dots, N_j$$

$$z_{ji} = \min\left\{0, \Phi^{-1}\left(1 - \frac{R_i - 0.5}{N_j}\right)\right\} \quad \text{where } R_i \text{ is the rank of sample sum } i$$

$$\theta_j = \frac{1}{N_j}$$

**Proportion Measure**

$$z_{ji} = \min \left\{ 0, \frac{n_j i - n_{1j} a_j}{\sqrt{\frac{n_{1j} n_{2j} a_j (n_j - a_j)}{n_j - 1}}} \right\}, \quad i = \max(0, a_j - n_{2j}), \dots, \min(a_j, n_{1j})$$

$$\theta_{ji} = \text{HG}(i)$$

**Rate Measure**

$$z_{ji} = \min \left\{ 0, \frac{i - n_j q_j}{\sqrt{n_j q_j (1 - q_j)}} \right\}, \quad i = 0, \dots, n_j$$

$$\theta_{ji} = \text{BN}(i)$$

**D.2.5 Calculate the Overall Test Statistic ( $Z^T$ )**

$$Z^T = \frac{\sum_j W_j Z_j^* - \sum_j W_j E(Z_j^* | H_0)}{\sqrt{\sum_j W_j^2 \text{Var}(Z_j^* | H_0)}}$$

**The Balancing Critical Value**

There are four key elements of the statistical testing process:

- the null hypothesis,  $H_0$ , that parity exists between ILEC and CLEC services
- the alternative hypothesis,  $H_a$ , that the ILEC is giving better service to its own customers
- the Truncated Z test statistic,  $Z^T$ , and
- a critical value,  $c$

The decision rule<sup>1</sup> is

- If  $Z^T < c$  then accept  $H_a$ .
- If  $Z^T > c$  then accept  $H_0$ .

There are two types of errors possible when using such a decision rule:

- **Type I Error:** Deciding favoritism exists when there is, in fact, no favoritism.
- **Type II Error:** Deciding parity exists when there is, in fact, favoritism.

<sup>1</sup> This decision rule assumes that a negative test statistic indicates poor service for the CLEC customer. If the opposite is true, then reverse the decision rule.

The probabilities of each type of error are:

- **Type I Error:**  $\alpha = P(Z^T < c \mid H_0)$
- **Type II Error:**  $\beta = P(Z^T \geq c \mid H_a)$

We want a balancing critical value,  $c_B$ , so that  $\alpha = \beta$ .

It can be shown that.

$$c_B = \frac{\sum_j W_j M(m_j, se_j) - \sum_j W_j \frac{-1}{\sqrt{2\pi}}}{\sqrt{\sum_j W_j^2 V(m_j, se_j)} + \sqrt{\sum_j W_j^2 \left( \frac{1}{2} - \frac{1}{2\pi} \right)}}$$

where

$$M(\mu, \sigma) = \mu \Phi\left(\frac{-\mu}{\sigma}\right) - \sigma \phi\left(\frac{-\mu}{\sigma}\right)$$

$$V(\mu, \sigma) = (\mu^2 + \sigma^2) \Phi\left(\frac{-\mu}{\sigma}\right) - \mu \sigma \phi\left(\frac{-\mu}{\sigma}\right) - M(\mu, \sigma)^2$$

$\Phi(\cdot)$  is the cumulative standard normal distribution function, and  $\phi(\cdot)$  is the standard normal density function.

This formula assumes that  $Z_j$  is approximately normally distributed within cell  $j$ . When the cell sample sizes,  $n_{1j}$  and  $n_{2j}$ , are small this may not be true. It is possible to determine the cell mean and variance under the null hypothesis when the cell sample sizes are small. It is much more difficult to determine these values under the alternative hypothesis. Since the cell weight,  $W_j$  will also be small (see calculate weights section above) for a cell with small volume, the cell mean and variance will not contribute much to the weighted sum. Therefore, the above formula provides a reasonable approximation to the balancing critical value.

The values of  $m_j$  and  $se_j$  will depend on the type of performance measure.

### Mean Measure

For mean measures, one is concerned with two parameters in each cell, namely, the mean and variance. A possible lack of parity may be due to a difference in cell means, and/or a difference in cell variances. One possible set of hypotheses that capture this notion, and take into account the assumption that transaction are identically distributed within cells is:

$$H_0: \mu_{1j} = \mu_{2j}, \sigma_{1j}^2 = \sigma_{2j}^2$$

$$H_a: \mu_{2j} = \mu_{1j} + \delta_j \sigma_{1j}, \sigma_{2j}^2 = \lambda_j \sigma_{1j}^2 \quad \delta_j > 0, \lambda_j \neq 1 \text{ and } j = 1, \dots, L. \text{ (where } \delta_j \text{ corresponds to the delta values defined in section 4.1.6 of the Administrative Plan)}$$

Under this form of alternative hypothesis, the cell test statistic  $Z_j$  has mean and standard error given by

$$m_j = \frac{-\delta_j}{\sqrt{\frac{1}{n_{1j}} + \frac{1}{n_{2j}}}}$$

and

$$se_j = \sqrt{\frac{\lambda_j n_{1j} + n_{2j}}{n_{1j} + n_{2j}}}$$

### Proportion Measure

For a proportion measure there is only one parameter of interest in each cell, the proportion of transaction possessing an attribute of interest. A possible lack of parity may be due to a difference in cell proportions. A set of hypotheses that take into account the assumption that transaction are identically distributed within cells while allowing for an analytically tractable solution is:

$$\begin{aligned} H_0: & \quad \frac{p_{2j}(1-p_{1j})}{(1-p_{2j})p_{1j}} = 1 \\ H_a: & \quad \frac{p_{2j}(1-p_{1j})}{(1-p_{2j})p_{1j}} = \psi_j \quad \psi_j > 1 \text{ and } j = 1, \dots, L. \end{aligned}$$

(where  $\psi_j$  corresponds to the psi values defined in section 4.1.6 of the Administrative Plan)

These hypotheses are based on the “odds ratio.” If the transaction attribute of interest is a missed trouble repair, then an interpretation of the alternative hypothesis is that a CLEC trouble repair appointment is  $\psi_j$  times more likely to be missed than an ILEC trouble.

Under this form of alternative hypothesis, the within cell asymptotic mean and variance of  $a_{1j}$  are given by<sup>1</sup>

$$\begin{aligned} E(a_{1j}) &= n_j \pi_j^{(1)} \\ \text{var}(a_{1j}) &= \frac{n_j}{\frac{1}{\pi_j^{(1)}} + \frac{1}{\pi_j^{(2)}} + \frac{1}{\pi_j^{(3)}} + \frac{1}{\pi_j^{(4)}}} \end{aligned}$$

where

---

<sup>1</sup> Stevens, W. L. (1951) Mean and Variance of an entry in a Contingency Table. *Biometrika*, 38, 468-470.



$$\begin{aligned}
\pi_j^{(1)} &= f_j^{(1)} \left( n_j^2 + f_j^{(2)} + f_j^{(3)} - f_j^{(4)} \right) \\
\pi_j^{(2)} &= f_j^{(1)} \left( -n_j^2 - f_j^{(2)} + f_j^{(3)} + f_j^{(4)} \right) \\
\pi_j^{(3)} &= f_j^{(1)} \left( -n_j^2 + f_j^{(2)} - f_j^{(3)} + f_j^{(4)} \right) \\
\pi_j^{(4)} &= f_j^{(1)} \left( n_j^2 \left( \frac{2}{\psi_j} - 1 \right) - f_j^{(2)} - f_j^{(3)} - f_j^{(4)} \right) \\
f_j^{(1)} &= \frac{1}{2n_j^2 \left( \frac{1}{\psi_j} - 1 \right)} \\
f_j^{(2)} &= n_j n_{1j} \left( \frac{1}{\psi_j} - 1 \right) \\
f_j^{(3)} &= n_j a_j \left( \frac{1}{\psi_j} - 1 \right) \\
f_j^{(4)} &= \sqrt{n_j^2 \left[ 4n_{1j} (n_j - a_j) \left( \frac{1}{\psi_j} - 1 \right) + \left( n_j + (a_j - n_{1j}) \left( \frac{1}{\psi_j} - 1 \right) \right)^2 \right]}
\end{aligned}$$

Recall that the cell test statistic is given by

$$Z_j = \frac{n_j a_{1j} - n_{1j} a_j}{\sqrt{\frac{n_{1j} n_{2j} a_j (n_j - a_j)}{n_j - 1}}}$$

Using the equations above, we see that  $Z_j$  has mean and standard error given by

$$m_j = \frac{n_j^2 \pi_j^{(1)} - n_{1j} a_j}{\sqrt{\frac{n_{1j} n_{2j} a_j (n_j - a_j)}{n_j - 1}}}$$

and

$$se_j = \sqrt{\frac{n_j^3 (n_j - 1)}{n_{1j} n_{2j} a_j (n_j - a_j) \left( \frac{1}{\pi_j^{(1)}} + \frac{1}{\pi_j^{(2)}} + \frac{1}{\pi_j^{(3)}} + \frac{1}{\pi_j^{(4)}} \right)}}$$

### Rate Measure

A rate measure also has only one parameter of interest in each cell, the rate at which a phenomenon is observed relative to a base unit, e.g. the number of troubles per available line. A possible lack of parity may be due to a difference in cell rates. A set of hypotheses that take into account the assumption that transaction are identically distributed within cells is:

$$H_0: r_{1j} = r_{2j}$$

$$H_a: r_{2j} = \varepsilon_j r_{1j} \quad \varepsilon_j > 1 \text{ and } j = 1, \dots, L.$$

(where  $\varepsilon_j$  corresponds to the epsilon values defined in section 4.1.6 of the Administrative Plan)

Given the total number of ILEC and CLEC transactions in a cell,  $n_j$ , and the number of base elements,  $b_{1j}$  and  $b_{2j}$ , the number of ILEC transaction,  $n_{1j}$ , has a binomial distribution from  $n_j$  trials and a probability of

$$q_j^* = \frac{r_{1j} b_{1j}}{r_{1j} b_{1j} + r_{2j} b_{2j}}$$

Therefore, the mean and variance of  $n_{1j}$ , are given by

$$E(n_{1j}) = n_j q_j^*$$

$$\text{var}(n_{1j}) = n_j q_j^* (1 - q_j^*)$$

Under the null hypothesis

$$q_j^* = q_j = \frac{b_{1j}}{b_j}$$

but under the alternative hypothesis

$$q_j^* = q_j^a = \frac{b_{1j}}{b_{1j} + \varepsilon_j b_{2j}}$$

Recall that the cell test statistic is given by

$$Z_j = \frac{n_{1j} - n_j q_j}{\sqrt{n_j q_j (1 - q_j)}}$$

Using the relationships above, we see that  $Z_j$  has mean and standard error given by

$$m_j = \frac{n_j (q_j^a - q_j)}{\sqrt{n_j q_j (1 - q_j)}} = (1 - \varepsilon_j) \frac{\sqrt{n_j b_{1j} b_{2j}}}{b_{1j} + \varepsilon_j b_{2j}}$$

and

$$se_j = \sqrt{\frac{q_j^a (1 - q_j^a)}{q_j (1 - q_j)}} = \sqrt{\varepsilon_j} \frac{b_j}{b_{1j} + \varepsilon_j b_{2j}}$$

### D.2.6 Determining the Parameters of the Alternative Hypothesis

In this section we have indexed the alternative hypothesis of mean measures by two sets of parameters,  $\lambda_j$  and  $\delta_j$  (where  $\delta_j$  corresponds to the delta values defined in section 4.1.6 of the Administrative Plan section). Proportion measures are indexed by parameter  $\psi_j$  and rate measures by  $\varepsilon_j$  (these parameters correspond to the Psi and Epsilon of section 4.1.6). A major difficulty with this approach is that more than one alternative will be of interest; for example we may consider one alternative in which all the  $\delta_j$  are set to a common non-zero value, and another set of alternatives in each of which just one  $\delta_j$  is non-zero, while all the rest are zero. There are very many other possibilities. Each possibility leads to a single value for the balancing critical value; and each possible critical value corresponds to many sets of alternative hypotheses, for each of which it constitutes the correct balancing value.

The formulas we have presented can be used to evaluate the impact of different choices of the overall critical value. For each putative choice, we can evaluate the set of alternatives for which this is the correct balancing value. While statistical science can be used to evaluate the impact of different choices of these parameters, there is not much that an appeal to statistical principles can offer in directing specific choices. Specific choices are best left to telephony experts. Still, it is possible to comment on some aspects of these choices:

*Parameter Choices for  $\lambda_j$*  – The set of parameters  $\lambda_j$  index alternatives to the null hypothesis that arise because there might be greater unpredictability or variability in the delivery of service to a CLEC customer over that which would be achieved for an otherwise comparable ILEC customer. While concerns about differences in the variability of service are important, it turns out that the truncated Z testing which is being recommended here is relatively insensitive to all but very large values of the  $\lambda_j$ . Put another way, reasonable differences in the values chosen here could make very little difference in the balancing points chosen.

*Parameter Choices for  $\delta_j$*  – The set of parameters  $\delta_j$  are much more important in the choice of the balancing point than was true for the  $\lambda_j$ . The reason for this is that they directly index differences in average service. The truncated Z test is very sensitive to any such differences; hence, even small disagreements among experts in the choice of the  $\delta_j$  could be very important. Sample size matters here too. For example, setting all the  $\delta_j$  to a single value –  $\delta_j = \delta$  might be fine for tests across individual CLECs where the CLEC customer bases are not too different. Using the same value of  $\delta$  for the overall state testing does not seem sensible. At the state level we are aggregating over CLECs, so using the same  $\delta$  as for an individual CLEC would be saying that a “meaningful” degree of disparity is one where the

violation is the same ( $\delta$ ) for each CLEC. But the detection of disparity for any component CLEC is important, so the relevant “overall”  $\delta$  should be smaller.

*Parameter Choices for  $\psi_j$  or  $\varepsilon_j$*  – The set of parameters  $\psi_j$  or  $\varepsilon_j$  are also important in the choice of the balancing point for tests of their respective measures. The reason for this is that they directly index increases in the proportion of service performance. The truncated Z test is sensitive to such increases; but not as sensitive as the case of  $\delta$  for mean measures. Sample size matters here too. As with mean measures, using the same value of  $\psi$  or  $\varepsilon$  for the overall state testing does not seem sensible.

The bottom line here is that beyond a few general considerations, like those given above, a principled approach to the choice of the alternative hypotheses to guard against must come from elsewhere.

#### **D.2.7 Decision Process**

Once  $Z^T$  has been calculated, it is compared to the balancing critical value to determine if the ILEC is favoring its own customers over a CLEC's customers.

## Appendix E: BST SEEM Remedy Calculation Procedures

### E.1 BST SEEM Remedy Procedure

#### E.1.1 Tier-1 Calculation For Retail Analogs

DETERMINE IF AN INDIVIDUAL CLEC FAILS A TIER 1 SUBMETRIC

1. Tier 1 is triggered by a monthly failure of any Tier 1 Remedy Plan submetric.
2. Calculate the overall test statistic for a CLEC (CLEC1); Example,  $z_{CLEC1}^T$  (Per Statistical Methodology).
3. Calculate the balancing critical value (Example,  ${}^cB_{CLEC1}$ ) that is associated with the alternative hypothesis (for fixed parameters  $\delta, \Psi$ , or  $\epsilon$ ) for that CLEC.
4. If the overall test statistic is equal to or above the balancing critical value, stop here. That is, if  ${}^cB_{CLEC1} \leq z_{CLEC1}^T$ , stop here. Otherwise, go to step 5.

CALCULATE REMEDY PAYMENT FOR CORRECTION OF TEST STATISTIC TO THE BCV

5. Select the cell with the most negative z-value (let  $i=1, \dots, I$  with  $i=1$  having the most negative z-value,  $i=2$  having next most negative z-value, etc. and with  $i=I$  when the criterion in step 7 is fulfilled.) and set its z-value to zero ( $z_{CLEC1,i} = 0$ ).
6. Recalculate the overall test statistic for that CLEC with the adjusted data; Example,  $z_{CLEC1}^{T*}$  (Per Statistical Methodology).
7. If the new overall test statistic is equal to or above the balancing critical value, that is, if  ${}^cB_{CLEC1} \leq z_{CLEC1}^{T*}$ , go to step 8. Otherwise, repeat steps 5 – 6 letting  $i = i + 1$ .
8. Calculate the Total Affected Volume (TAV) by summing the Total Impacted Volumes (TIV) of each cell whose z-value was reset to zero except the last cell changed. The affected volume for the last cell changed should be interpolated by  $TIV_{CLEC1,I,INT} = ({}^cB_{CLEC1} - z_{CLEC1,I-1}^{T*}) / (z_{CLEC1,I}^{T*} - z_{CLEC1,I-1}^{T*}) * TIV_{CLEC1,I}$ . The result should be rounded up to the next positive integer and added to  $TAV_{CLEC1}$ . That is,  $TAV_{CLEC1} = TIV_{CLEC1,1} + TIV_{CLEC1,2} + \dots + TIV_{CLEC1,I-1} + TIV_{CLEC1,I,INT}$ . Note that if  $TIV_{CLEC1,I} = 1$  then  $TIV_{CLEC1,I,INT} = 1$  and the interpolation step can be omitted. Any transactions that cause the overall test statistic to be between the BCV and zero will be included in the TIV for transactions between the BCV and zero.
9. Calculate the below BCV portion of the payment to CLEC1 by multiplying the result of step 8 ( $TAV_{CLEC1}$ ) by the appropriate dollar amount from the fee schedule. Thus,  $CLEC1_{BCV} \text{ payment} = TAV_{CLEC1} * \$\$_{\text{from Fee Schedule}}$ . Here the fee should be derived from Table 1: Fee Schedule for Tier 1 Per Transaction Fee Determination (Appendix A) multiplied by the appropriate factor from section 4.3.1.4. This factor is 3/2 if the CLEC aggregate performance passes and 3 if the CLEC aggregate performance fails.

### CALCULATE REMEDY PAYMENT FOR CORRECTION OF TEST STATISTIC TO ZERO

10. If the current overall adjusted test statistic (calculated in step 6) is equal to or above zero, that is, if  $0 \leq z_{CLEC1}^T$  for  $i = I$ , then go to step 14. Otherwise, go to step 11.
11. Select the cell with the most negative remaining z-value (let  $i=I+1, \dots, J$  with  $i=I+1$  having the most negative z-value,  $i=I+2$  having next most negative z-value, etc. and with  $i=J$  when the criterion in step 13 is fulfilled.) and set its z-value to zero ( $z_{CLEC1,i} = 0$ ).
12. Recalculate the overall test statistic for that CLEC with the adjusted data; Example,  $z_{CLEC1}^T$  (Per Statistical Methodology).
13. If the new overall test statistic is equal to or above zero, that is, if  ${}^cB_{CLEC1} \leq z_{CLEC1}^T$ , go to step 14. Otherwise, repeat steps 11 – 12 letting  $i = i+1$ .
14. Calculate the Total Affected Volume (TAV0) by summing the Total Impacted Volumes (TIV0) of each cell whose z-value was reset to zero except the last cell changed. The affected volume for the last cell changed should be interpolated by  $TIV0_{CLEC1,J,INT} = (0 - z_{CLEC1,J-1}^T) / (z_{CLEC1,J}^T - z_{CLEC1,J-1}^T) * TIV0_{CLEC1,J} - TIV0_{CLEC1,I,INT}$ . The result should be rounded up to the next positive integer and added to  $TAV0_{CLEC1}$ . That is,  $TAV0_{CLEC1} = (TIV0_{CLEC1,I} - TIV0_{CLEC1,I,INT}) + TIV0_{CLEC1,I+1} + TIV0_{CLEC1,I+2} + \dots + TIV0_{CLEC1,J-1} + TIV0_{CLEC1,J,INT}$ . Note that if  $TIV0_{CLEC1,J} = 1$  then  $TIV0_{CLEC1,J,INT} = 1$  and the interpolation step can be omitted. Also,  $TIV0_{CLEC1,I} - TIV0_{CLEC1,I,INT}$  is the remaining transactions from  $TIV0_{CLEC1,I}$  that were not used in step 8 and if  $TIV0_{CLEC1,I} = TIV0_{CLEC1,I,INT}$  then  $TAV0_{CLEC1} = 0$ .
15. Calculate the 0 to BCV portion of the payment to CLEC1 by multiplying the result of step 14 ( $TAV0_{CLEC1}$ ) by the appropriate dollar amount from the fee schedule. Thus,  $CLEC1_0 \text{ payment} = TAV0_{CLEC1} * \$\$_{\text{from Fee Schedule}}$ . Here the fee should be derived from Table 1: Fee Schedule for Tier 1 Per Transaction Fee Determination (Appendix A) multiplied by the appropriate factor from section 4.3.1.4. This factor is 1/3 if the CLEC aggregate performance passes and 2/3 if the CLEC aggregate performance fails.

### CALCULATE TOTAL REMEDY PAYMENT FOR CLEC1

16. The total remedy payment for CLEC1 is found by adding the results from step 9 to the results from step 15. That is  $CLEC1_{TOTAL} \text{ payment} = CLEC1_{BCV} \text{ payment} + CLEC1_0 \text{ payment}$ .

### E.1.2 Example: CLEC1 Percent Repeat Customer Troubles Within 30 Days (PRT) for Resale (DSGN).

Submeasure Category = Provisioning - Resale

Failure Month = Month 1

CLEC Aggregate Result = Failed

|              | $n_i$ | $n_c$ | $I_c$     | $z_{CLEC1}^T$   | ${}^cB_{CLEC1}$ |                    | Order<br>Zeroed<br>Out (I/J) | TAV<br>(< BCV) | TAV0<br>(0 to BCV) |
|--------------|-------|-------|-----------|-----------------|-----------------|--------------------|------------------------------|----------------|--------------------|
| State        | 312   | 27    | 18        | -4.10           | -1.22           |                    |                              |                |                    |
| Cell         |       |       |           | $z_{CLEC1,j}^T$ | RANK            | $z_{CLEC1}^{T*}$   |                              |                |                    |
| 1            |       | 1     | 0         | 0.75            |                 |                    |                              |                |                    |
| 2            |       | 4     | 2         | -0.69           | 8               |                    |                              |                |                    |
| 3            |       | 3     | 3         | -1.76           | 3               | -0.65 <sup>Δ</sup> | 3                            | 2 <sup>°</sup> | 1                  |
| 4            |       | 1     | 0         | 0.67            |                 |                    |                              |                |                    |
| 5            |       | 4     | 3         | -1.45           | 5               | 0.80 <sup>ΔΔ</sup> | 5                            |                | 1 <sup>°°</sup>    |
| 6            |       | 3     | 3         | -3.45           | 1               | -2.46              | 1                            | 3              |                    |
| 7            |       | 2     | 2         | -1.81           | 2               | -1.60              | 2                            | 2              |                    |
| 8            |       | 3     | 2         | -1.09           | 6               |                    |                              |                |                    |
| 9            |       | 1     | 1         | -1.65           | 4               | -0.13              | 4                            |                | 1                  |
| 10           |       | 2     | 1         | -0.84           | 7               |                    |                              |                |                    |
| 11           |       | 1     | 0         | 0.62            |                 |                    |                              |                |                    |
| 12           |       | 2     | 1         | -0.40           | 9               |                    |                              |                |                    |
| <b>Total</b> |       |       | <b>18</b> |                 |                 |                    |                              | <b>7</b>       | <b>3</b>           |

<sup>Δ</sup>Note that after making  $z_{CLEC1,j}^T = 0$ , the overall  $z_{CLEC1}^{T*} = -0.65$  is greater than the balancing critical value  ${}^cB_{CLEC1} = -1.22$ .

<sup>ΔΔ</sup>Note that after making  $z_{CLEC1,j}^T = 0$ , the overall  $z_{CLEC1}^{T*} = 0.80$  is greater than zero.

<sup>°</sup>For cell#3 the TAV would be calculated with  $((-1.22) - (-1.60))/((-0.65) - (-1.60)) \times 3 = 1.2$  which is rounded up to 2 transactions.

<sup>°°</sup>For cell#5 the TAV0 would be calculated with  $((0) - (-0.13))/((0.80) - (-0.13)) \times 4 = 0.56$  which is rounded up to 1 transaction.

Remedy payment for CLEC1<sub>BCV</sub> payment is (7 units) \* (\$40/unit) \* (3 factor) = **\$840** when the CLEC aggregate performance fails. Remedy payment for CLEC1<sub>0</sub> payment is (3 units) \* (\$40/unit) \* (2/3 factor) = **\$80** when the CLEC aggregate performance fails. The total remedy payment is CLEC<sub>TOTAL</sub> payment = \$840 + \$80 = **\$920**.

## E.2 Tier-2 Calculation For Retail Analogs

1. Tier 2 is triggered by three consecutive monthly failures of any Tier 2 Remedy Plan sub-metric. Determine failure by performing steps 2 – 4 in section E.1.1 for each of the three consecutive months for the aggregate of all CLEC data. If any month passes, no remedies are required.
2. If remedies are required, calculate monthly statistical results and affected volumes for the CLEC aggregate performance for each of the three consecutive months as outlined in steps 5 - 8 and 10 - 14 of section E.1.1. Determine average monthly affected volumes for the rolling 3-month period for both the TAV (remedies required for correcting the test statistic back to the BCV) and the TAV0 (remedies required for correcting the test statistic back to zero).
3. Calculate the payment to State Designated Agency by multiplying average monthly volumes by the appropriate dollar amount from the Tier-2 fee schedule (Appendix A, Table 2: Tier 2 Per Transaction Fee Determination).
4. Therefore, State Designated Agency payment = (average monthly volume TAV \* \$\$ from Fee Schedule) + (average monthly volume TAV0 \* \$\$ from Fee Schedule).

### E.2.1 Example: STATE-A Percent Provisioning Troubles within X Days - UNE Loops Design

**Submeasure Category = Provisioning – UNE**

**Failure Month = Month 1**

**CLEC Aggregate Result = Failed all three months**

| Month<br>1 | $n_i$ | $n_c$ | $I_c$ | $z_{CLEC1}^T$   | $C_{CLEC1}$ |                    | Order<br>Zeroed<br>Out (I/J) | TAV<br>(< BCV) | TAV0<br>(0–BCV) |
|------------|-------|-------|-------|-----------------|-------------|--------------------|------------------------------|----------------|-----------------|
| State      | 155   | 37    | 8     | -5.11           | -0.35       |                    |                              |                |                 |
| Cell       |       |       |       | $z_{CLEC1,i}^T$ | RANK        | $z_{CLEC1}^T$      |                              |                |                 |
| 1          |       | 3     | 1     | -1.53           | 5           | 0.91 <sup>ΔΔ</sup> | 5                            |                | 1 <sup>00</sup> |
| 2          |       | 1     | 0     | 0.31            |             |                    |                              |                |                 |
| 3          |       | 2     | 1     | -2.18           | 3           | -1.21              | 3                            | 1              |                 |
| 4          |       | 1     | 1     | -4.52           | 2           | -2.39              | 2                            | 1              |                 |
| 5          |       | 1     | 0     | 0.28            |             |                    |                              |                |                 |
| 6          |       | 18    | 1     | -0.24           | 8           |                    |                              |                |                 |
| 7          |       | 5     | 1     | -0.45           | 7           |                    |                              |                |                 |
| 8          |       | 1     | 1     | -5.39           | 1           | -3.74              | 1                            | 1              |                 |
| 9          |       | 4     | 1     | -0.50           | 6           |                    |                              |                |                 |



| Month 1 | $n_i$ | $n_c$ | $l_c$ | $z_{CLEC1}^T$ | ${}^cB_{CLEC1}$ |                    | Order Zeroed Out (I/J) | TAV (< BCV)    | TAV0 (0-BCV) |
|---------|-------|-------|-------|---------------|-----------------|--------------------|------------------------|----------------|--------------|
| 10      |       | 1     | 1     | -2.14         | 4               | -0.04 <sup>Δ</sup> | 4                      | 1 <sup>°</sup> | 0            |
| Total   |       |       | 8     |               |                 |                    |                        | 4              | 1            |

<sup>Δ</sup>Note that after making  $z_{CLEC1,I} = 0$ , the overall  $z_{CLEC1}^T = -0.04$  is greater than the balancing critical value  ${}^cB_{CLEC1} = -0.35$ .

<sup>ΔΔ</sup>Note that after making  $z_{CLEC1,J} = 0$ , the overall  $z_{CLEC1}^T = 0.80$  is greater than zero.

<sup>°</sup>For cell#10 the TAV<sub>4</sub> would not be interpolated given that the impacted volume for that cell is only 1.

<sup>°°</sup>For cell#1 the TAV<sub>5</sub> would not be interpolated given that the impacted volume for that cell is only 1.

TAV for month 1 is 4 units, TAV0 for month 1 is 1 unit.

**Submeasure Category = Provisioning – UNE**

**Failure Month = Month 2**

**CLEC Aggregate Result = Failed all three months**

| Month 2 | $n_i$ | $n_c$ | $l_c$ | $z_{CLEC1}^T$ | ${}^cB_{CLEC1}$ |                   | Order Zeroed Out (I/J) | TAV (< BCV)    | TAV0 (0-BCV) |
|---------|-------|-------|-------|---------------|-----------------|-------------------|------------------------|----------------|--------------|
| State   | 175   | 13    | 3     | -0.94         | -0.39           |                   |                        |                |              |
| Cell    |       |       |       | $z_{CLEC1,j}$ | RANK            | $z_{CLEC1}^T$     |                        |                |              |
| 1       |       | 2     | 1     | -1.58         | 2               |                   |                        |                |              |
| 2       |       | 1     | 0     | 1.00          |                 |                   |                        |                |              |
| 3       |       | 1     | 0     | 0.25          |                 |                   |                        |                |              |
| 4       |       | 1     | 0     | 0.26          |                 |                   |                        |                |              |
| 5       |       | 2     | 0     | 0.46          |                 |                   |                        |                |              |
| 6       |       | 1     | 0     | 0.20          |                 |                   |                        |                |              |
| 7       |       | 2     | 1     | -0.71         | 3               |                   |                        |                |              |
| 8       |       | 1     | 1     | -4.12         | 1               | 0.28 <sup>Δ</sup> | 1                      | 1 <sup>°</sup> |              |
| 9       |       | 1     | 0     | 0.35          |                 |                   |                        |                |              |
| 10      |       | 1     | 0     | 0.50          |                 |                   |                        |                |              |
| Total   |       |       | 3     |               |                 |                   |                        | 1              | 0            |

<sup>Δ</sup>Note that after making  $z_{CLEC1,i} = 0$ , the overall  $z_{CLEC1}^* = 0.28$  is greater than the balancing critical value  ${}^cB_{CLEC1} = -0.39$ . Note that it is also greater than zero. Therefore the total affected volume has been identified.

<sup>o</sup>For cell#8 the  $TAV_1$  would not be interpolated given that the impacted volume for that cell is only 1.

TAV for month 2 is 1 unit, TAV0 for month 2 is 0 units.

**Submeasure Category = Provisioning – UNE**

**Failure Month = Month 3**

**CLEC Aggregate Result = Failed all three months**

| Month<br>3 | $n_i$ | $n_c$ | $I_c$ | $z_{CLEC1}^T$   | ${}^cB_{CLEC1}$ |                   | Order<br>Zeroed<br>Out (I/J) | TAV<br>(< BCV) | TAV0<br>(0–BCV) |
|------------|-------|-------|-------|-----------------|-----------------|-------------------|------------------------------|----------------|-----------------|
| State      | 196   | 33    | 8     | -4.76           | -0.49           |                   |                              |                |                 |
| Cell       |       |       |       | $z_{CLEC1,i}^T$ | RANK            | $z_{CLEC1}^T$ *   |                              |                |                 |
| 1          |       | 2     | 0     | 0.48            |                 |                   |                              |                |                 |
| 2          |       | 4     | 1     | -2.55           | 6               |                   |                              |                |                 |
| 3          |       | 2     | 0     | 0.57            |                 |                   |                              |                |                 |
| 4          |       | 1     | 1     | -3.00           | 4               | -0.81             | 4                            | 1              |                 |
| 5          |       | 1     | 1     | -3.16           | 2               | -2.78             | 2                            | 1              |                 |
| 6          |       | 1     | 0     | 0.20            |                 |                   |                              |                |                 |
| 7          |       | 1     | 1     | -3.32           | 1               | -3.76             | 1                            | 1              |                 |
| 8          |       | 2     | 1     | -3.00           | 3               | -1.78             | 3                            | 1              |                 |
| 9          |       | 1     | 1     | -2.92           | 5               | 0.18 <sup>Δ</sup> | 5                            | 1 <sup>o</sup> |                 |
| 10         |       | 6     | 1     | -0.41           | 7               |                   |                              |                |                 |
| 11         |       | 10    | 1     | -0.32           | 8               |                   |                              |                |                 |
| 12         |       | 1     | 0     | 0.24            |                 |                   |                              |                |                 |
| 13         |       | 1     | 0     | 0.28            |                 |                   |                              |                |                 |
| Total      |       |       | 8     |                 |                 |                   |                              | 5              | 0               |

<sup>Δ</sup>Note that after making  $z_{CLEC1,i} = 0$ , the overall  $z_{CLEC1}^* = 0.18$  is greater than the balancing critical value  ${}^cB_{CLEC1} = -0.49$ . Note that it is also greater than zero. Therefore the total affected volume has been identified.

<sup>o</sup>For cell#9 the  $TAV_5$  would not be interpolated given that the impacted volume for that cell is only 1.

TAV for month 3 is 5 units, TAV0 for month 3 is 0 units.

If the above examples represent performance for each of months 1 through 3, then

### E.2.2 Example: STATE-A Percent Provisioning Troubles within 30 Days - UNE Loops Design

| State                                       | TAV       | TAV0    |
|---|-----------|---------|
| Month 1                                     | 4         | 1       |
| Month 2                                     | 1         | 0       |
| Month 3                                     | 5         | 0       |
| Average TAV(0) for rolling 3 month period   | 3.33      | 0.33    |
| Remedy amount per unit ( Appendix A Table 2 | \$345     | \$76    |
| Remedy Dollars                              | \$1148.85 | \$25.08 |

The total remedy paid for this Tier 2 submetric is \$1148.85 + \$25.08 = \$1,173.93 which rounds up to **\$1174**.

### E.3 Tier-1 Calculation For Benchmarks

1. For each CLEC with five or more observations, calculate monthly performance results for the State.
2. CLECs having observations (sample sizes) between 5 and 30 will use Table I below. The only exception will be for Collocation Percent Missed Due Dates.

Small Sample Size Table (95% Confidence)

| Sample Size | Equivalent 90% Benchmark | Equivalent 95% Benchmark | Sample Size | Equivalent 90% Benchmark | Equivalent 95% Benchmark |
|-------------|--------------------------|--------------------------|-------------|--------------------------|--------------------------|
| 5           | 60.00%                   | 80.00%                   | 18          | 77.78%                   | 83.33%                   |
| 6           | 66.67%                   | 83.33%                   | 19          | 78.95%                   | 84.21%                   |
| 7           | 71.43%                   | 85.71%                   | 20          | 80.00%                   | 85.00%                   |
| 8           | 75.00%                   | 75.00%                   | 21          | 76.19%                   | 85.71%                   |
| 9           | 66.67%                   | 77.78%                   | 22          | 77.27%                   | 86.36%                   |
| 10          | 70.00%                   | 80.00%                   | 23          | 78.26%                   | 86.96%                   |
| 11          | 72.73%                   | 81.82%                   | 24          | 79.17%                   | 87.50%                   |
| 12          | 75.00%                   | 83.33%                   | 25          | 80.00%                   | 88.00%                   |
| 13          | 76.92%                   | 84.62%                   | 26          | 80.77%                   | 88.46%                   |

| Sample Size | Equivalent 90% Benchmark | Equivalent 95% Benchmark | Sample Size | Equivalent 90% Benchmark | Equivalent 95% Benchmark |
|-------------|--------------------------|--------------------------|-------------|--------------------------|--------------------------|
| 14          | 78.57%                   | 85.71%                   | 27          | 81.48%                   | 88.89%                   |
| 15          | 73.33%                   | 86.67%                   | 28          | 78.57%                   | 89.29%                   |
| 16          | 75.00%                   | 87.50%                   | 29          | 79.31%                   | 86.21%                   |
| 17          | 76.47%                   | 82.35%                   | 30          | 80.00%                   | 86.67%                   |

3. If the percentage (or equivalent percentage for small samples) meets the benchmark standard, no remedies are required. Otherwise, go to step 4.
4. Determine the Volume Proportion by taking the difference between the benchmark and the actual performance result.
5. Calculate the Total Affected Volume (TAV) by multiplying the Volume Proportion from step 4 by the Total Impacted CLEC1 Volume.
6. Calculate the payment to CLEC1 by multiplying the result of step 5 by the appropriate dollar amount from the fee schedule (Appendix A, Table 1) times the appropriate multiplier (section 4.3.1.5). That is, CLEC1 payment = (Affected Volume<sub>CLEC1</sub> \* \$\$from Fee Schedule \* multiplier). For the example that follows, fee amounts are based on an aggregate failure.

### E.3.1 Example: CLEC1 Percent Missed Due Dates for Collocations

**Submeasure Category = Collocation**  
**Failure Month = Month 1**  
**CLEC Aggregate Result = Failed**

|       | $n_c$ | Benchmark      | PMDD <sub>C</sub> | Volume Proportion | Affected Volume |
|-------|-------|----------------|-------------------|-------------------|-----------------|
| State | 600   | >= 95% On Time | 92%               | .03               | 18              |

Payout for CLEC1 is (18 units) \* (\$3165/unit) \* (3 factor) = \$170,910

### E.4 Tier 1 Calculation For Benchmarks (In The Form Of A Target)

1. For each CLEC with five or more observations calculate monthly performance results for the State.
2. CLECs having observations (sample sizes) between 5 and 30 will use small sample size table above.
3. Calculate the interval distribution based on the same data set used in step 1.
4. If the 'percent within' (or equivalent percentage for small samples) meets the benchmark standard, no remedies are required. Otherwise, go to step 5.
5. Determine the Volume Proportion by taking the difference between benchmark

and the actual performance result.

6. Calculate the Total Affected Volume by multiplying the Volume Proportion from step 5 by the Total CLEC1 Volume.
7. Calculate the payment to CLEC1 by multiplying the result of step 6 by the appropriate dollar amount from the fee schedule. CLEC1 payment = Affected Volume<sub>CLEC1</sub> \* \$\$ from Fee Schedule \* multiplier. For the example that follows assume CLEC aggregate failure.

#### E.4.1 Example: CLEC-1 Reject Interval – Fully Mechanized

**Submeasure Category = Ordering**

**Failure Month = Month 1**

**CLEC Aggregate Result = Failed**

|       | n <sub>c</sub> | Benchmark     | Reject Interval | Volume Proportion | Affected Volume |
|-------|----------------|---------------|-----------------|-------------------|-----------------|
| State | 600            | 97% <= 1 hour | 95% <= 1 hour   | .02               | 12              |

Payout for CLEC1 is (12 units) \* (\$20/unit) \* (2.5 factor) = \$600

#### E.5 Tier 2 Calculations For Benchmarks

Tier 2 calculations for benchmark measures are the same as the Tier 1 benchmark calculations, except they are based on the CLEC aggregate performance and the CLEC aggregate data will have failed for three (3) consecutive months.

#### E.6 Regional and State Coefficients

This section describes the method of calculating regional and state coefficients.

##### E.6.1 AKC

- Acknowledgement Completeness (AKC\_EDI & AKC-TAG)

##### Regional Coefficient Formula (Tier 1)

Coefficient = (A+B) / (C+D) where:

- A= number of valid FOC transactions of the CLEC in the state (fully & partially mechanized)
- B = number of valid RI transactions of the CLEC in the state (fully & partially mechanized)

- C = total valid FOC transactions of the CLEC in the region (fully & partially mechanized)
- D = total valid RI transactions of the CLEC in the region (fully & partially mechanized)

### State Coefficient Formula (Tier 2)

State Coefficient =  $(A+B) / (C+D)$  where:

- A = number of valid FOC transactions for all CLECs in the state (fully & partially mechanized)
- B = number of valid RI transactions for all CLECs in the state (fully & partially mechanized)
- C = total valid FOC transactions in the region (fully & partially mechanized)
- D = total valid RI transactions in the region (fully & partially mechanized)

### E.6.2 PFT

- Percent Flow Through CLEC Aggregate - Residence (PFT-RES)
- Percent Flow Through CLEC Aggregate - Business (PFT- BUS)
- Percent Flow Through CLEC Aggregate - UNE Other (PFT-UOTH)
- Percent Flow Through CLEC Aggregate - UNE Loop & Port Combo (PFT-UNEPC)
- Percent Flow Through CLEC Aggregate - LNP (PFT-LNP)

### Regional Coefficient Formula (Tier 1)

Coefficient =  $A / B$  where:

- A = number of valid FOC transactions of the CLEC in the state (fully mechanized)
- B = total valid FOC transactions of the CLEC in the region (fully mechanized)

### State Coefficient Formula (Tier 2)

State Coefficient =  $A / B$  where:

- A = number of valid FOC transactions for all CLECs in the state (fully-mechanized)
- B = total valid FOC transactions in the region (fully-mechanized)

### E.6.3 CMN, PSEC, PCRAR, PCRIP

- Timeliness of Change Management (CMN)
- Percent of Software Errors Corrected in X (10, 30, 45) Business Days - Region (PSEC)
- Percent Change Requests Accepted or Rejected in 10 Days - Region (PCRAR)
- Percent of Change Request Implemented Within 60 Weeks of Prioritization - Region (PCRIP)

**State Coefficient Formula (Tier 2)**

Coefficient =  $(A+B) / (C+D)$  where:

- A = number of valid FOC transactions for all CLECs in the state (fully & partially mechanized)
- B = number of valid RI transactions for all CLECs in the state (fully & partially mechanized)
- C = total valid FOC transactions in the region (fully & partially mechanized)
- D = total valid RI transactions in the region (fully & partially mechanized)

**E.6.4 IA**

- Interface Availability (IA)

**State Coefficient Formula (Tier 2)**

Coefficient =  $(A+B) / (C+D)$  where:

- A = number of valid FOC transactions for all CLECs in the state (fully & partially mechanized)
- B = number of valid RI transactions for all CLECs in the state (fully & partially mechanized)
- C = total valid FOC transactions in the region (fully & partially mechanized)
- D = total valid RI transactions in the region (fully & partially mechanized)

## **Appendix F: BellSouth's Policy on Reposting of Performance Data and Recalculation of SEEM Payments**

BellSouth will make available reposted performance data as reflected in the Service Quality Measurement (SQM) reports and recalculate Self-Effectuating Enforcement Mechanism (SEEM) payments using the Parity Analysis and Remedy Information System (PARIS), to the extent technically feasible, under the following circumstances:

1. Those SQM measures included in a state's specific SQM plan with corresponding sub-metrics are subject to reposting. A notice will be placed on the PMAP website advising CLECs when reposted data is available.
2. SQM Performance sub-metric calculations that result in a shift in the statewide aggregate performance from an "in parity" condition to an "out of parity" condition will be available for reposting.
3. SQM Performance sub-metric calculations with benchmarks where statewide aggregate performance is in an "out of parity" condition will be available for reposting whenever there is a  $\geq 2\%$  decline in BellSouth's performance at the sub-metric level.
4. SQM Performance sub-metric calculations with retail analogues that are in an "out of parity" condition will be available for reposting whenever there is a degradation in performance as shown by an adverse change of  $\leq .5$  in the z-score at the sub-metric level.
5. Any data recalculations that reflect an improvement in BellSouth's performance will be reposted at BellSouth's discretion. However, statewide performance must improve by at least 2% for benchmark measures and the z-score must improve by at least 0.5 for retail analogs at the sub-metric level to qualify for reposting.
6. SQM Performance data will be reposted for a maximum of three months in arrears from date of detection. As an example, should an error be discovered during the analysis of the May data month, and this error triggers a reposting, BellSouth will correct the data beginning with the month of detection (May) and the three months preceding – April, March and February.
7. When updated SQM performance data has been reposted or when a payment error in PARIS has been discovered, BellSouth will recalculate applicable SEEM payments where technically feasible, for a maximum of three months



in arrears from date of detection. Recalculated SEEM payments due to reposted SQM data will be made for the same months that the applicable data was reposted. The three month period for recalculating SEEM payments due to an error in PARIS will be determined in the same manner previously described for the SQM. For example, should an error in PARIS be discovered for the data month of May, BellSouth will correct data for May and the three preceding months – April, March and February.

8. Any adjustments for underpayment of Tier 1 and Tier 2 calculated remedies resulting from the application of this policy will be made consistent with the terms of the state-specific SEEM plan, including the payment of interest. Any adjustments for overpayment of Tier 1 and Tier 2 remedies will be made at BellSouth's discretion.
9. Any adjustments for underpayments resulting from application of this policy will be made in the next month's payment cycle after the recalculation is made. The final current month PARIS reports will reflect the transmitted dollars, including adjustments for prior months where applicable. Questions regarding the adjustments should be made in accordance with the normal process used to address CLEC questions related to SEEM payments.

When a CLEC believes that an error in its specific data requires reposting where the above statewide thresholds have not been met, the CLEC is responsible for identifying such issues and requesting BellSouth to repost the data. Any failure to repost inaccurate data should be brought to the attention of the Commission for resolution if it is estimated that the thresholds described in items 3, 4, or 5 have been met at the CLEC-specific level.

### **Determination of when Reposting Policy Applies**

As part of the Change Notification Process, BellSouth performs an analysis of impacts that are proposed to be made to Performance Measurement Application Platform (PMAP) code. These impacts are used to identify changes to its reported SQM results.

To determine this impact, BellSouth performs a query of the data warehouse to identify those records that would be impacted by the proposed change. Once the number of records are identified, the measurement is recalculated to determine the impact. This is the general framework for analysis - the specific steps used to evaluate the impact will vary with the issue being analyzed. However, the following example may assist in understanding:

Assume that service orders with an activity code of T were erroneously being included in a UNE-P disaggregation for Percent Missed Installation Appointments. They should have been in another product disaggregation. Further, assume that the number of records erroneously included as UNEP is 110 records out of a total of 86,000. In this example, the numerator and

denominator would both be reduced by 110 records and the z-score would be recalculated. If the amount of the change was sufficient to meet criteria 2, 4 or 5 above, the Reposting policy will be invoked.

STATE OF SOUTH CAROLINA

COUNTY OF RICHLAND

)  
)  
)

CERTIFICATE OF SERVICE

The undersigned, Nyla M. Laney, hereby certifies that she is employed by the Legal Department for BellSouth Telecommunications, Inc. ("BellSouth") and that she has caused BellSouth Telecommunications, Inc.'s Joint Motion to Approve New Performance Measurement Plan in Docket No. 2001-209-C to be served upon the following this September 16, 2005:

Florence P. Belser, Esquire  
General Counsel  
Office of Regulatory Staff  
Post Office Box 11263  
Columbia, SC 29211  
**(U. S. Mail and Electronic Mail)**

Sonia Daniels  
Law & Government Affairs  
AT&T – Southern Region  
1200 Peachtree Street, NE, Rm. 4080  
Atlanta, Georgia 30309  
(AT&T)  
**(U. S. Mail and Electronic Mail)**

F. David Butler, Esquire  
Senior Counsel  
S. C. Public Service Commission  
Post Office Box 11649  
Columbia, South Carolina 29211  
(PSC Staff)  
**(U. S. Mail and Electronic Mail)**

Joseph Melchers  
Chief Counsel  
S.C. Public Service Commission  
Post Office Box 11649  
Columbia, South Carolina 29211  
(PSC Staff)  
**(U.S. Mail and Electronic Mail)**

RECEIVED  
2005 SEP 16 AM 9:17  
SC PUBLIC SERVICE  
COMMISSION

Jocelyn G. Boyd, Esquire  
Staff Attorney  
S. C. Public Service Commission  
Post Office Box 11649  
Columbia, South Carolina 29211  
(PSC Staff)  
**(U. S. Mail and Electronic Mail)**

Russell B. Shetterly, Esquire  
P. O. Box 8207  
Columbia, South Carolina 29202  
(Knology of Charleston and Knology of  
South Carolina, Inc.)  
**(U. S. Mail and Electronic Mail)**

Darra W. Cothran, Esquire  
Woodward, Cothran & Herndon  
1200 Main Street, 6th Floor  
Post Office Box 12399  
Columbia, South Carolina 29211  
(MCI WorldCom Network Service, Inc.  
MCI WorldCom Communications and  
MCImetro Access Transmission Services, Inc.)  
**(U. S. Mail and Electronic Mail)**

John F. Beach, Esquire  
John J. Pringle, Jr., Esquire  
Ellis Lawhorne & Sims, P.A.  
Post Office Box 2285  
Columbia, South Carolina 29202  
(Resort Hospitality Services, Inc., NuVox  
Communications, Inc., AIN and Momentum Business  
Solutions, Inc.)  
**(U. S. Mail and Electronic Mail)**

Marsha A. Ward, Esquire  
Kennard Woods, Esquire  
MCI WorldCom, Inc.  
Law and Public Policy  
6 Concourse Parkway, Suite 3200  
Atlanta, Georgia 30328  
(MCI)  
**(U. S. Mail and Electronic Mail)**

Frank R. Ellerbe, Esquire  
Bonnie D. Shealy, Esquire  
Robinson, McFadden & Moore, P.C.  
1901 Main Street, Suite 1200  
Post Office Box 944  
Columbia, South Carolina 29202  
(SCCTA )  
**(U. S. Mail and Electronic Mail)**

Genevieve Morelli  
Kelley, Drye & Warren, LLP  
1200 19<sup>th</sup> Street, N.W.  
Washington, D.C. 20036  
(KMC Telecom III, Inc.)  
**(U. S. Mail and Electronic Mail)**

John D. McLaughlin, Jr.  
Director, State Government Affairs  
KMC Telecom, Inc.  
1755 North Brown Road  
Lawrenceville, GA 30043  
(KMC Telecom)  
**(U. S. Mail and Electronic Mail)**

William R. Atkinson, Esquire  
3065 Cumberland Circle  
Mailstop GAATLD0602  
Atlanta, Georgia 30339  
(Sprint/United Telephone)  
**(U. S. Mail and Electronic Mail)**

Scott A. Elliott, Esquire  
Elliott & Elliott  
721 Olive Street  
Columbia, South Carolina 29205  
(Sprint/United Telephone)  
**(U. S. Mail and Electronic Mail)**

Marty Bocoock, Esquire  
Director of Regulatory Affairs  
1122 Lady Street, Suite 1050  
Columbia, South Carolina 29201  
(Sprint/United Telephone Company)  
**(U. S. Mail and Electronic Mail)**

Bonnie D. Shealy, Esquire  
Robinson McFadden & Moore, P.C.  
1901 Main Street, Suite 1200  
P. O. Box 944  
Columbia, South Carolina 29202  
(US LEC)  
**(U. S. Mail and Electronic Mail)**

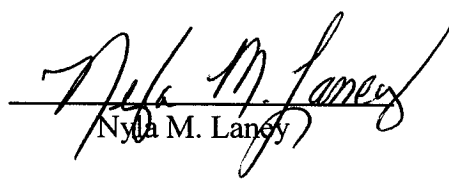
Andrew O. Isar  
Director – State Affairs  
7901 Skansie Avenue, Suite 240  
Gig Harbor, WA 98335  
(ASCENT)  
**(U. S. Mail and Electronic Mail)**

Nanette Edwards, Esquire  
ITC^DeltaCom Communications, Inc.  
4092 S. Memorial Parkway  
Huntsville, Alabama 35802  
**(U. S. Mail and Electronic Mail)**

Timothy Barber, Esquire  
Womble, Carlyle, Sandridge & Rice  
3300 One First Union Center  
301 South College  
Suite 3300  
Charlotte, North Carolina 20202  
(AT&T)  
**(U. S. Mail and Electronic Mail)**

Tami Azorsky, Esquire  
McKenna & Cuneo, LLP  
1900 K Street, N.W.  
Washington, DC 20006  
(AT&T)  
**(U. S. Mail and Electronic Mail)**

William Prescott, Esquire  
1200 Peachtree Street, N.E.  
Suite 8100  
Atlanta, Georgia 30309  
(AT&T)  
**(U. S. Mail and Electronic Mail)**



Nyla M. Laney

PC Docs # 401224